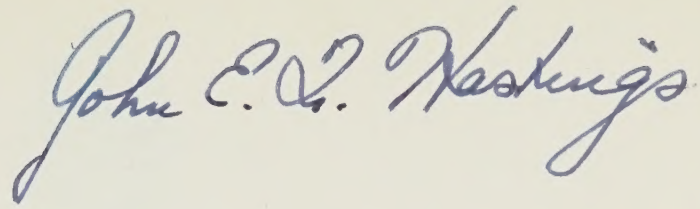
ROYAL COMMISSION ON HEALTH SERVICES

VOLUNTARY MEDICAL INSURANCE AND PREPAYMENT

CHARLES H. BERRY

1964



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Price subject to change without notice

ROGER DUHAMEL, F.R.S.C.
Queen's Printer and Controller of Stationery
Ottawa, Canada
1965

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PREFACE

This study reports findings from two quite separate undertakings. The Royal Commission on Health Services initially requested current estimates of the degree to which Canadians have availed themselves of the medical insurance and prepayment services of non-public organizations. Such estimates, however, are of limited value in the absence of more detailed information defining the nature of the availability of those services as well as the consequences for individual families of the decision to elect, or alternatively to decline, such voluntary coverage as is available. With this in mind, two projects were initiated in the early spring of 1962.

The first was a survey, conducted with the cooperation of the two major industry associations, of all private carriers active in the medical insurance and prepayment field in 1961. That survey was aimed at developing measures of coverage as adequate as were feasible within the bounds set by the resources available to this study and at the collection of up-to-date and reliable information regarding the underwriting practices and restraints imposed by these carriers. Relatively limited, but exceedingly important, information regarding the financial records of the voluntary carriers was also obtained.

The second project was intended to supplement this material with data relating to the realized medical expense of characteristic Canadian families. This project, made possible by the support and encouragement of Manitoba Medical Service and the Computer Center of Yale University, attempted to assemble more detailed information about the average annual cost of various categories of medical service, and about the distribution of those costs among similarly situated families, than has previously been available in this country. That information in turn provided a basis against which a number of questions regarding the impact of voluntary as well as compulsory medical insurance and prepayment coverage can be considered.

These two projects are the core of this study. In addition, a series of smaller undertakings complements the two major ones. With the cooperation of the Federal Department of Labour, working establishments in Canada employing more than 15 persons in 1961 were surveyed with respect to the presence and character of group health plans provided by, or available within, those establish-

ments. Some over-all tabulations from that survey are included here. More detailed results are available from the Department of Labour itself.[1]

Data from Manitoba Medical Service are supported by additional material from three separate sources. Physicians' Services Incorporated, in Toronto, permitted a sampling of their membership and claims records to yield medical expense records over a period of eight years for roughly five hundred families with continuous coverage during the eight-year period. This material added a time dimension to the Manitoba study that would otherwise have been lacking.

Medical Services, Incorporated, in Saskatoon, despite the pressure generated by the imminent total shift to a provincial plan in the provision of medical insurance and prepayment, assembled a sample of about two thousand families with M.S.I. protection during 1961. These two thousand families represented four subsamples of five hundred families, each subsample containing families covered by a different type of M.S.I. contract. This material provided a check of the general applicability of the Manitoba experience, and also allowed estimates to be made of the effect of differing contract provisions within the same geographic area.

Finally, in the summer of 1963, the Saskatchewan Medical Care Insurance Commission released preliminary records of the Saskatchewan experience with what was essentially universal coverage during the second quarter of 1963. Again the detail of these estimates permitted further testing of the applicability of the Manitoba experience as well as that of the more limited M.S.I. sample drawn from Saskatchewan a year earlier.

These are the data on which the following chapters are based. This study is empirical and relies almost entirely on new sources of primary data. It is not, unfortunately, as well integrated with the existing literature in this area, or with secondary data sources, as would be desirable. In the time available, effort was directed primarily toward the development of new and current material rather than the processing and sifting of the old. This choice may not always have been wise. The experienced reader may see areas where a more thorough examination of existing sources would have proved more valuable than the more ambitious alternative here attempted. Nevertheless, that is in part hindsight and in part the deliberate character of this study.

At times, this study seems unique in the number of persons and organizations whose help was vital to its completion. It was initially facilitated by a grant of a year's leave-of-absence by Yale University. Without the facilities of the Yale University Computer Center, which were donated, the basic computational work reported here could not have been attempted. The major debt of this entire study is to Mr. George Sadowsky of the Department of Economics of Yale University, who developed all major machine programming and who contributed countless hours to this work. His comments, advice and assistance were invaluable. The support

[1] Department of Labour, *Working Conditions in Canadian Industry*, Report No. 6, (Ottawa, 1962).

of Dr. Morris Davis, Director of the Computer Center, who from the beginning, and without complaint as the hours of usage mounted, underwrote this project, is very gratefully acknowledged. Machine tabulation of the Saskatchewan (M.S.I.) data was provided by Mr. Peter von Mertens, Yale College Class of 1963.

The collection of data also benefited from outside help. A first draft of the questionnaire ultimately used to survey the voluntary carriers was based largely on work by Mr. Antonio W. Diokno of the Governor's Study Commission on Prepaid Hospital and Medical Care Plans at the University of Michigan. Permission to use parts of the Diokno questionnaire in this way was granted by Dr. Walter J. McNerney, Study Director of the Michigan Commission. Advice in this regard was provided by Mr. Symond R. Gottleib and Dr. Grover C. Wirick of the University of Michigan. Revision of that questionnaire to meet Canadian conditions and the Royal Commission's purpose was possible only through repeated consultations with Mr. Corbet Drewry of the Canadian Health Insurance Association, Mr. Ralph N. MacIntosh of the Zurich Insurance Company and Mr. Howard Shillington of Trans-Canada Medical Plans, Inc. (1961). Distribution of the Commission's questionnaire to the insurance carriers active in Canada was greatly facilitated by Mr. Drewry and Mrs. C. Edwards of his staff.

The Department of Labour's survey of health benefit plans in Canadian working establishments was a cooperative project. It reflected the interests of both the Department of Labour and the Royal Commission on Health Services. Dr. Robert M. Adams, Chief of the Labour Management, Economics and Research Branch, and members of his immediate staff contributed both time and skill to this project. In particular, questionnaire design benefited from repeated conversations with Dr. Adams, Mr. John B. Lane and Mr. Paul B. Wolfe. Mrs. Violet Gorman and Miss Jean Copeland spent long and extra hours hand-editing returned questionnaires. Mr. A.H. Portigal developed the machine programming to tabulate the "health benefit plans" section of the working conditions questionnaire. Unfortunately, not all the machine tabulations could be processed in time for inclusion in this volume.

The latter half of this study is based largely on data made available by several doctor-sponsored prepayment plans. The contribution of those data to this study will be apparent to any reader. In this regard, the cooperation received from Manitoba Medical Service can only be described as remarkable. From the beginning, this project had the support of the Manitoba Medical Service Board and of its Executive Director, Dr. J.C. MacMaster. The release of records in this detail is probably unprecedented for an organization of this sort. Mr. Hubert Prefontaine of M.M.S. was indispensable, first in his help in the initial preparation of these records and later in his availability at all times to answer urgent requests for clarification and interpretation when problems arose. It must be added that the release of these data by M.M.S. was a mark of confidence not only in the work of the Royal Commission but also in the inherent soundness of the

entire Manitoba prepayment plan.[1] For the former, we are grateful; the validity of the latter is evident from material included later in this report.

Similarly Mr. William S. Major and Mr. Arthur Bond of Physicians' Services Incorporated, extended help far beyond the provision, valuable as that was, of a sample of P.S.I. experience over an eight-year period. Both Mr. Major and Mr. Bond provided, on several occasions, insight to the general operation of a variety of prepayment and insurance plans, without which many more errors would have remained in this study.

For tabulation of the P.S.I. data, and for general assistance as well, I am indebted to Miss Marcia Appel and Mrs. Mary Anne Lynch Miller of the Brookings Institution.

Thanks are also gratefully extended to Mr. W.J. Mathers, Mr. R.R. Sawa, and Mr. Glen Sundquist of Medical Services, Incorporated, in Saskatoon, Once again requested data were cheerfully and promptly provided, not without inconvenience to the providers.

Finally, but by no means least in this list, is the contribution of the Royal Commission staff. Mrs. V. Watkins spent more hours than should be counted, and more surely than she cares to remember, in painstaking tabulation, checking, and re-checking of questionnaires returned by the voluntary carriers. Every table in Chapter 3, and most of those elsewhere, are the product of her work. Mrs. Gwen Robertson typed and re-typed every chapter, including drafts from scripts that others (justifiably) declared unreadable. Miss Gail Cook coordinated the tabulation of questionnaire returns and is largely responsible for the accuracy and existence of Appendix A. Miss Gisella Erdody, in cooperation with Mrs. Watkins, organized the presentation and interpretation of the machine results of Chapters 5 and 6. This was no mean task; it probably did not help to point out, with unerring hindsight, that more of this work should have been machine programmed. A machine, however, would not have been quite the same, and to all of the Ottawa staff, those few mentioned and the others who helped, I am very grateful.

This study was completed and submitted to the Royal Commission on Health Services in the fall of 1963. It was edited for publication in 1964. During the editing process, the entire manuscript, or parts of it, was read and improved by Rashi Fein, John A. Brittain, and Arthur M. Okun. Relevant sections were checked, though not necessarily approved, by Mr. Corbet Drewry and by Dr. J.C. MacMaster. Again, I am grateful. Errors of fact and judgment, commission or omission, that remain are of course solely my own responsibility.

Charles H. Berry

Washington, D.C.
1964.

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[1] Although released to the Commission for its work, these data remain the property of Manitoba Medical Service and are not available from the Commission.

CHAPTER 1

INTRODUCTION

This study has two parts. Chapters 2, 3 and 4 are a study of existing voluntary medical insurance and prepayment in Canada. Later chapters extend this analysis to consider several aspects of the influence of prepayment or insurance coverage on family expenditure for medical care. A brief chapter outline is provided below.

Chapter 2 contains the findings of two separate surveys undertaken to measure the extent of voluntary prepayment and insurance coverage in Canada in 1961. Chapter 3 is concerned with underwriting practice in both the group and non-group fields, and examines the degree to which underwriting restraints tend to limit or discourage the election of voluntary coverage. Chapter 4 contains estimates of the administrative and sales cost of voluntary coverage, and of the amount of total medical expense paid on behalf of persons with some coverage by contracts in force in 1961. These chapters exclude consideration of any public program, whether national, provincial or municipal. They are concerned with the impact and performance of private agencies that offer insurance or prepayment contracts in the medical field. That field itself is narrowly defined. The emphasis here is on contracts providing benefits for, or in the form of, *physicians' services.* Insurance contracts that provide cash indemnities in the event of loss of income due to sickness or accident are not included. Insurance or prepayment contracts providing benefits *only* for drugs, hospital care, nursing and/or any medical services other than those of physicians are similarly excluded. The focus of this study is on *physicians' services* and on contracts offering benefits that are tied *directly* to the cost of those services.

Chapters 5 and 6, although similarly limited to physicians' services, have broader implications. Chapter 5 contains an analysis of the risk of medical expense by class of family, and illustrates the differences between insurance (or prepayment) and self-insurance in terms of realized medical costs.[1] Chapter 6 estimates the effect of age, family size, marital status, experience, and location on the utilization of medical services. These chapters are concerned with definition of the essential problems that medical prepayment and insurance

[1] The term "self-insured" is used to describe the individual or family without insurance or prepayment protection.

contracts are designed to meet. The discussion relates to the functions of medical insurance and prepayment and also to certain social aspects of the financing and utilization of medical services that give rise to issues of public policy. The concluding chapter, Chapter 7, explicitly considers some broad social alternatives to voluntary coverage as it has developed in Canada.

This division of attention is, of course, by no means complete. The early chapters are not devoid of reference to the social implications of certain aspects of contemporary experience in this area. Neither are the later chapters irrelevant to the analysis of the various types of medical contract now sold. In general, however, the study proceeds from the narrow to the broad – from a presentation of a mass of institutional material relating to particular and current aspects of the industry today to a more general discussion of the character of medical expense and of the needs that the voluntary carriers have endeavoured to meet, and to an examination of the degree of their success in this regard.

Four appendices are included. The first contains a replica of the survey questionnaire, and identification of the population of carriers submitting those questionnaires, tabulation of which forms the basis for Chapters 2, 3 and 4. Appendix II provides, for reference purposes, summary discussion of the Department of Labour's survey of health benefit plans in Canadian working establishments. A replica of the relevant portions of that questionnaire is included. Appendix III contains more detailed information regarding the composition of medical expenses by type of family than has heretofore been generally available. Some discussion of the tables of Appendix III is also included. Appendix IV reproduces relevant portions of the comprehensive Manitoba Medical Service prepayment contract.

MEDICAL INSURANCE AND PREPAYMENT

In 1961 some 263 organizations in Canada were licensed to issue health insurance or prepayment contracts of some kind. Of these, 97 are known to have had contracts providing surgical or medical benefits in force in Canada in that year.[1]

These 97 carriers represented a varied group of organizations. Thirty-six were joint stock companies, 23 were mutual companies, 22 were cooperative and fraternal societies of some sort, and 16 classed themselves as medical prepayment plans. They ranged in size from the very large international life insurance companies with assets in the hundreds of millions of dollars to the very tiny local

[1] Traditional insurance terminology distinguishes between "surgical" and "medical" insurance. The former provides benefits only for surgical (cutting) procedures. "Medical" insurance, as the term originally developed, was applicable to physicians' services other than surgery. These two types of insurance are frequently combined under the same contract. In principle, however, each provides benefits based on the services of a physician. To avoid the awkward phrase "surgical and medical", the term "medical" is used in this study to refer to both surgical and medical insurance or procedures. Where the distinction between the two is important, it has been specifically noted.

cooperatives with a few hundred contracts outstanding. They reflect varied philosophies of purpose and display markedly different formal operating procedures. However, in 1961 each offered to the general public, or to a defined segment of the general public, some form of legal contract either providing necessary medical care or contributing directly towards the cost of that care.

The collective impact of these organizations has not been minor. In 1961, they contributed roughly $150 million towards the direct costs of physicians' services.[1] In that year, a little over one-half the population of Canada received some degree of protection from the costs of medical care from "voluntary" contracts issued by these private carriers.[2]

The medical insurance and prepayment carriers provide a wide range of type of contract. Indeed, perhaps the most striking aspect of this field is the multiplicity of underwriting practice. The most fundamental distinction is between insurance and prepayment.

Insurance Contracts

Medical *insurance* contracts provide, in return for a contractual payment, benefits in the form of cash indemnification in the event certain and necessary medical expenses are incurred by the insured person or family. These indemnity payments are typically limited to the lower of the actual expense incurred or some maximum amount defined by the contract. In some instances, the indemnity is a stated fraction (less than one) of realized expense up to that defined upper limit. It is a maxim of insurance principles that the insured person or family should not profit materially from what is considered adverse experience. For this reason, most contracts hold the obligations of the insurer void in the event of duplicated coverage. A medical *insurance* contract, therefore, provides benefits which reimburse the insured for some proportion of his expense in the event certain medical procedures are required. The contract is solely between the insured and the insurer; there is usually no direct relationship whatsoever between the insurer and the providers of medical care.[3]

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[1] See Chapter 4, Table 4—1.

[2] See Chapter 2, Table 2—1. The term voluntary is not always appropriate. In a number of instances protection was received as a fully paid fringe benefit in a working establishment. Though the individual worker under these circumstances may decline to enter claims against that coverage if he so chooses, the protection is nevertheless in force. In this sense, the contract is scarcely voluntary. It is not elected or rejected with the individual either providing or avoiding the corresponding premium or subscription cost.

[3] This last is only formally correct. In many instances, by agreement between the insured and his physician, applicable benefits are assigned by the insured to his physician and are paid directly to that physician by the insurance carrier in question.

Prepayment Contracts

In contrast, medical prepayment contracts, in their "pure" form, do not commit the carrier to make indemnity payments to the subscriber in the event of unfavourable experience. Instead they provide that the carrier shall, through agreements with participating physicians, bear directly all or part of the cost of necessary medical care rendered to a subscriber by a participating physician.[1] In effect, the subscriber receives medical services without, or at a reduced, charge.

The essential distinction lies in the carrier's obligation. The insurance carrier accepts an obligation to make cash payments to the subscriber in the event of certain occurrences. The prepayment carrier, again in the "pure" case, accepts responsibility for the compensation of a participating physician who renders necessary medical care or services.[2] This latter is the basis for the term "service contract" as opposed to "indemnity contract" – the subscriber receives *services*, not cash payments.

The emphasis on "pure" prepayment is necessary. In practice, the line of demarcation between medical insurance and prepayment has become blurred. Organizations originating as prepayment plans offering true service contracts, while retaining and emphatically defending their right to the name "prepayment plan", now frequently offer contracts which are essentially insurance contracts. Indeed, some prepayment plans offer only insurance contracts.

History of Distinction

The dichotomy is historical in origin. Insurance in the health field was first introduced as an extension of traditional insurance in other areas.[3] Since its inception, the function of all insurance has been considered that of protecting against catastrophic loss. In most areas of insurance, that loss is frequently a

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[1] Agreements between the prepayment plans and their participating physicians do not require a physician to accept any subscriber as a patient. In general, prepayment contracts specify that service will be rendered to the subscriber by any participating physician willing to accept the subscriber as a patient.

[2] From the standpoint of the contract holder, the "service" (prepayment) contract provides, in some instances, a guarantee, though it may be limited to certain income groups, with respect to the cost of necessary medical services. In those instances, medical care is provided without charge to the subscriber. With insurance contracts, the relationship between the indemnity paid and the actual cost of necessary services is not guaranteed by the carrier. In exchange for this guarantee of the service contract, the subscriber must generally accept some limitation on the source of the care received; that is, care must be rendered by a participating physician.

[3] Herman and Anne Somers note that "the late Professor Kulp... has aptly remarked that sickness benefits 'began as a frill on the accident form'. He might have added that, so far as commercial insurance is concerned, medical expense coverage began as a 'frill' on cash-disability benefits". See H.M. and A.R. Somers, *Doctors, Patients and Health Insurance*, (Washington, Brookings Institution, 1961), p. 261. The Somers date the first surgical expense contracts in 1903. It is interesting, by comparison, that the first appearance of medical prepayment contracts in North America was in Montreal in 1655. See O.D. Dickerson, *Health Insurance*, (Homewood, Ill., Irwin, 1959), p. 145.

loss of expected income, and can adequately be compensated by cash payment. Most commercial forms of insurance are essentially in this category. In other areas, the loss may be one which cannot readily be restored in kind. A lost limb (or other insured portion of anatomy) cannot readily be reconstructed. In addition, there are economies in cash compensation, and from the beginning the cash indemnity has been a central and unquestioned feature of the insurance field. When the insurance principle was extended to health, an extension which is astonishingly recent in view of the long history of both insurance and medicine, the function of insurance continued to be viewed as protection against extreme loss – in this case loss incurred by the unavoidable cost of necessary medical care. The actual provision of that necessary medical care has not, until very recently if at all, been a concern of the *insurance* carriers. The risk was defined in terms of cash, not in terms of replacement cost or need.

The actual provision of medical care, on the other hand, was central to the development of medical prepayment. The first prepayment contracts were direct contracts between individual physicians and their patients.[1] Throughout its development, prepayment has been oriented towards the provision of care rather than the simple alleviation of the risk of high expense.[2] Its supporters and developers saw in prepayment a means of achieving a more adequate distribution of medical care. This was the device whereby reasonably complete medical care could be made available to broad sectors of the population without individual financial burden and without personal sacrifice on the part of individual physicians. Support for these plans has come from the medical profession as well as from others concerned with social welfare.

Under these circumstances, it is not surprising that in the case of prepayment, the emphasis has been on complete medical care – on comprehensive coverage to use a more modern term.[3] Viewed not as a device for risk avoidance but rather as a means of financing medical care, prepayment should logically include all services, not just a few.[4] The insurance carriers have been handi-

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[1] Perhaps the most interesting institutional arrangements in this regard are those reported from early Chinese experience. Here, it is said, patients contracted with their physicians, agreeing to make periodic payments while in good health, but ceasing to make any payments while ill. The physician in turn was obligated to care for any sick patient. See K.J. Arrow, "Uncertainty and the Economics of Medical Care", *American Economic Review*, Vol. 53, No. 5, December, 1963, p. 961.

[2] Although the history of medical prepayment is almost as long, if not as long, as the history of medicine itself, as a significant social force in terms of volume, modern prepayment dates only from the late 1930's. It was not until after the beginning of World War II that many of the major plans now operative in Canada appeared, and it was not until after the close of World War II that the enrollment of these plans reached significant proportions.

[3] The term "comprehensive", here and elsewhere in this study, is used with reference to physicians' services only. In this sense, comprehensive means including all physicians' services but does not imply that other medical requirements (e.g., drugs, nursing and so forth) are included. This usage of the term differs therefore from that of the *Report* of the Royal Commission on Health Services where comprehensive "includes all health services, preventive, diagnostic, curative and rehabilitative, that modern medical and other sciences can provide". Royal Commission on Health Services, Volume I, (Queen's Printer, 1964) p. 11.

[4] The more limited prepayment contracts have generally been a compromise motivated by the desire either to hold subscription rates within acceptable bounds or to meet the direct competition of more narrowly defined, and hence less expensive, insurance contracts.

capped by no such philosophical restraint. Here the tendency has been to design contracts to meet the risk which the public feared, or against which the public was willing to buy protection. The result has been a degree of flexibility in insurance contract design which is astonishing to view and frustrating to describe. Underwriting ingenuity has not been a scarce commodity.

There is, however, still another difference that stems from these divergent attitudes in prepayment and insurance. The desire to use the prepayment device as a means for extending the availability of medical services has led the prepayment organizations actively to favour and support what is known as "community rating" – the setting of a single and simple subscription rate with general applicability within a broad geographic area. In most instances such rates would distinguish, for equivalent coverage, only between single persons and families, and between contracts issued on a group basis and those issued directly to individual persons or household heads. The effect of this simplified rate structure is to produce a substantial element of cross-subsidization within the "prepaid" population. Medical expenses clearly do vary with age, with family size, and to a lesser extent with occupation, location, and other variables. A single rate for all persons or families results in an implicit subsidy from the low-expense categories to the high. Far from regarding this as a drawback, the proponents of medical prepayment see this as an advantage. It is precisely by this means that it is hoped to place comprehensive medical prepayment, and hence medical services, within the reach of the high-expense groups.

To the insurance industry, "good" underwriting aims at a narrow definition of the applicable risk. If, for example, the relationship between age and expected medical expense can be accurately determined, then, to the insurance underwriter, good rate setting will reflect these differences, and the low-expense category will avoid the necessity of contributing to the cost of the medical care of their colleagues who are subject to higher risk.

In the case of group contracts, this attitude has given rise to what is known as "group-rating".[1] Under this system of rate setting, premiums are fixed according to the realized experience of the insured group. Thus a group comprising chiefly young single persons, such as the office staff of a department store, will be charged low premiums in comparison, with, say, a group of retired school teachers. In the case of non-group contracts, insurance underwriting more frequently takes account of age, occupation, location, and family size, than do the corresponding prepayment packages.

Insurance and Prepayment Today

At present, the prepayment carriers and the insurance carriers share about equally the total market for their services.

[1] Group-rating is also known as experience-rating.

Neither has been immune to the influence of the philosophy of the other. On the one hand, the preoccupation and success of the prepayment carriers with *comprehensive* contracts has led the insurance carriers to answer with comprehensive contracts of their own. It seems quite fair to say that the major thrust in this direction has been stimulated by the success of the prepayment plans with all-inclusive medical packages. On the other hand, the attractiveness of available low-cost "experience-rated" insurance contracts to low-risk groups has forced most of the major prepayment carriers to adopt a similar policy. Experience-rating, with some exceptions, is now a major feature of prepayment as well as insurance rate setting. It should be noted further that several of the major prepayment plans have established subsidiaries that offer related health insurance contracts as adjuncts to the traditional medical service contracts of the parent prepayment plans. This is a direct answer to the increasing popularity of the comprehensive major medical contract of the insurance carriers.

This interaction and its implications are given more attention later in this study.

Classes of Carrier

Four distinct types of carriers are active in the medical field: stock insurance companies; mutual insurance companies; cooperatives and fraternal organizations; and the prepayment plans. Most of the tabulations of this study distinguish these four. The first two, at least in this area, follow essentially similar practices. These are the large commercial carriers. The cooperatives and fraternals, though not "service" organizations or doctor-sponsored, do reflect the social-service attitudes of the prepayment carriers. As a group, however, they are small, tend to service particular and narrow population groups, and generally offer contracts that are closely patterned after general insurance principles. The prepayment plans are usually physician-sponsored, and, as noted, support service rather than indemnity contracts, comprehensive rather than limited coverage, and broad rather than finely delineated subscription charges. It is these contracts that contrast most with the traditional patterns as they have developed within the insurance industry.

Terminology

This area is filled with quasi-technical and often loosely used terms. "Service contract", "indemnity contract", "experience", "group and community rating", "prepayment", "surgical", "medical", and "comprehensive" are only a few of the generally ill-defined concepts that have already been introduced. For the most part these and other terms are given the meaning in which they are

here employed as they are introduced. These interpretations will not always match the reader's, or even the industry's, usage. For the most part, an attempt has been made either to simplify, as in the case of a more general than usual use of the term "medical", or to accept what appears to be the most common usage at the present time.[1]

[1] In this regard, the term "individual" is perhaps the greatest culprit. The difficulty arises because of the differentiation between contracts issued to groups of individuals and families (for example employees and their dependents within a given working establishment) and those issued directly to single individuals or single family units. See footnote 4, p. 11

CHAPTER 2

MEDICAL INSURANCE AND PREPAYMENT IN CANADA

Widespread coverage of the Canadian population by voluntary medical insurance and prepayment is a recent phenomenon. In 1945 fewer than one million Canadians or about 6 per cent of the total population were protected by some form of surgical and/or medical coverage.[1] Preliminary estimates for 1961 by the Canadian Health Insurance Association show approximately 50 per cent of the population with at least some surgical insurance or prepayment protection.[2] While these estimates are approximate, there is no mistaking the rapid increase in the availability and popularity of health insurance and prepayment that has taken place in Canada during the last 20 years.[3]

This chapter presents independent estimates that attempt to measure in greater detail the extent and content of those contracts now in force. In the preparation of these estimates, every organization licensed by the Federal Government or by any of the ten provinces to issue any form of health insurance or prepayment was asked to complete a detailed questionnaire.[4] In all, 263 organizations were contacted during the spring and summer of 1962. Completed questionnaires were received and tabulated for 95. Another 88 indicated that the questionnaire was inapplicable.[5] Five returned completed questionnaires too late to be

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[1] Canadian Health Insurance Association, submission to the Royal Commission on Health Services, Toronto, April 17, 1962, p. 14.

[2] *Ibid.*

[3] These estimates are based on an annual survey of carriers conducted by the Canadian Conference on Health Care. A shortcoming of this survey is that coverage has been reported by contracts in force, over-estimating coverage by the extent to which individuals have more than a single contract in force at any given time. This is frequently the case where, for example, separate surgical and medical contracts are issued.

[4] A replica of this questionnaire and a listing of the organizations contacted and responding are provided in Appendix I.

[5] A number of organizations, though licensed to issue health insurance, had never done so. In addition, several companies returned blank questionnaires with a letter or note to the effect that health insurance was not issued, or was issued only in very small or insignificant amounts.

included in the tabulations reported here. Seventy-four did not respond. However, no organization known to issue health insurance or prepayment contracts or to have such contracts in force, failed to reply to this survey.[1]

COVERAGE IN 1961

In estimating coverage, this study did not count contracts but individuals with contracts. This procedure avoids the double-counting of persons covered by more than one contract and also permits information to be developed about the combinations of coverage actually held by individuals or families with insurance or prepayment protection.[2] Accordingly, each carrier contacted was asked to show the number of persons covered by each of the following *mutually exclusive* categories of coverage:[3]

1. Coverage of Surgical Procedures only.
2. Coverage of Medical (non-surgical) Care only.
3. Coverage of Surgical Procedures, and Medical Care in Hospital (contracts excluding medical care rendered in the patient's home or the physician's office).
4. Coverage of Surgical Procedures and Medical Care in Hospital, Home, and Office.
5. Comprehensive Major Medical Expense Contracts (contracts designed to provide full coverage and not intended to supplement other coverage).

Companies or organizations responding were asked to include in one of these 5 classes every individual holding any medical contract for all contracts in force *except* those individuals covered *only* by contracts best described by a sixth class:

6. Major Medical Expense Contracts – *Supplementary Type* (contracts designed to supplement other "basic" coverage and not intended or represented as contracts to be held without other coverage).[4]

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[1] Medical Services, Incorporated, and Group Medical Services, two prepayment plans in Saskatchewan, did not return questionnaires, apparently because of the passage of the Saskatchewan Medical Care Insurance Act. The 1961 coverage of these organizations (296,582 persons), submitted independently to the Royal Commission is, however, included in the coverage reported here. See Table 2–1, footnote 2.

[2] When the actual number of contracts in force is totalled, the result overstates the number of persons with coverage to the extent that individuals or families hold more than one medical insurance or prepayment contract. Accordingly this survey attempted to count individuals, not contracts. If all questionnaires were answered correctly, no individual was counted twice because he held two contracts issued by the same carrier.

[3] For more complete definitions, see Appendix I, "Instructions", p. 213ff.

[4] The questionnaire instructions emphasized that each individual was to be counted once and only once according to the first five classes of coverage listed. If an individual was covered only by a "supplementary type" of contract, he would *not* appear in any of the first five classes. If he held "basic" coverage as well as supplementary major medical coverage, he would be counted once in the first five classes (according to the type of basic coverage held) and again in the sixth class. See Appendix I.

Separate totals were requested for all individuals covered by contracts falling into this sixth category. "Basic" coverage in this context would generally mean contracts falling into one of the first four, more probably the first three, classes listed above. Individuals covered by a supplementary type of major medical contract would, therefore, typically also be covered by one of the earlier classes of contract, and if questionnaire instructions were accurately followed, would have been entered in one of those *as well* as in this sixth category. For this reason, estimates of the total number of individuals covered exclude the number of persons reported with contracts falling in this sixth class.

Table 2–1 shows the total number of contracts reported and the total number of individuals and dependents covered by each type of contract and by each major class of carrier during 1961.[1] Entries are shown separately for group and non-group contracts.[2]

In all, Table 2–1 indicates that 9.6 million Canadians had some form of medical insurance or prepayment coverage in 1961.[3] Of these, the vast majority, 8.3 million, received protection under group contracts. Non-group contracts accounted for only 1.3 million, or about 14 per cent, of all persons covered.[4-5] Only for Fraternal Societies (and these reported only non-group contracts), was the number of persons covered by non-group contracts greater than the number covered by group contracts. Although several individual companies have specia-

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[1] One stock company reported that it could not distinguish between persons covered by group contracts with benefits for surgery and in-hospital medical care and those with benefits for surgery and full medical care. The 23,438 persons covered are here reported in the latter category.

[2] Group contracts are those providing benefits, under a single master contract, to members of a defined group, most often persons with a common place or type of employment or employer. Non-group contracts are issued to one person and provide benefits only to that person and, in some cases, his dependents. Eligibility for group and non-group contracts is discussed in Chapter 3.

[3] Of these 9.6 million, approximately two-thirds (6.0 million) were classed as dependents of contract-holders. It is curious that the number of dependents covered by group contracts was almost double the number of individual group members, whereas only 735 thousand dependents were covered under 559 thousand non-group contracts. The average number of persons covered by each group contract was about 50 per cent more than the corresponding number of persons covered by each non-group contract in force in 1961. This may reflect crude (or erroneous) reporting of the number of dependents by several large carriers. This explanation was suggested by Mr. Corbet Drewry, who indicated that certain carriers tend to assume a proportion of covered dependents equal to the average number of dependents per family, thus ignoring the presence of single-party contracts.

[4] Group contracts are issued to cover both single individuals and individuals with dependents (families). It is common to speak of the former as individual group contracts. On the other hand, it is also common usage to refer to non-group contracts as individual (as distinct from group) contracts. Thus, for example, there can be an individual family contract, though strictly speaking this is a non-group contract covering an individual and his (or her) dependents. An effort has been made to employ the more accurate group and non-group nomenclature.

[5] Concentration of coverage among the 95 carriers reporting was high. The largest fifteen carriers (in terms of gross premium income from medical and surgical contracts) accounted for 76 per cent of total coverage as estimated by Table 2–1. These fifteen carriers included 4 stock insurance companies, 4 mutual insurance companies, and 7 prepayment plans. The 8 insurance companies accounted for 36 per cent, and the 7 prepayment plans 39 per cent, of the 9.6 million persons reported with coverage in Table 2–1.

TABLE 2–1

NUMBER OF PERSONS WITH MEDICAL INSURANCE AND/OR PREPAYMENT CONTRACTS, INDIVIDUALS AND DEPENDENTS, BY TYPE OF COVERAGE AND CLASS OF CARRIER, 1961

Class of Carrier	Type of Coverage						
	Surgical Coverage Only	Medical Care Only (No Surgery)	Surgical Procedures and In-hospital Medical Care	Surgical Procedures and Medical Care in Hospital, Clinic, Home, Office	Major Medical Expense Comprehensive or Basic	Major Medical Expense: Supplementary	Total, Excluding Major Medical Expense: Supplementary
Group Contracts							
Stock Companies							
Individuals[a]	68,735	327	175,839	285,066	128,950	174,927	658,917
Dependents	114,522	642	317,756	526,772	236,592	321,742	1,196,284
Total	183,257	969	493,595	811,838	365,542	496,669	1,855,201
Mutual Companies							
Individuals	85,653	8,181	125,906	98,024	398,257	198,140	716,021
Dependents	149,122	14,674	230,915	149,948	1,014.694	268,878	1,559,353
Total	234,775	22,855	356,821	247,972	1,412,951	467,018	2,275,374
Co-operatives							
Individuals	9,964	—	1,719	3,891	4,514	6,267	20,088
Dependents	18,092	—	2,738	5,044	9,601	13,005	35,475
Total	28,056	—	4,457	8,935	14,115	19,272	55,563
Prepayment Plans							
Individuals	4,173	169	. 403,891	968,714	—	121,244	1,376,947
Dependents	7,385	307	627,292	1,836,074	—	190,618	2,471,058
Total	11,558	476	1,031,183	3,044,555[b]	—	311,862	4,087,772[b]
All Group Contracts							
Individuals	168,525	8,677	707,355	1,355,695	531,721	500,578	2,771,973
Dependents	289,121	15,623	1,178,701	2,517,838	1,260,887	794,243	5,262,170
Total	457,646	24,300	1,886,056	4,113,300[b]	1,792,608	1,294,821	8,273,910[b]
Non-Group Contracts							
Stock Companies							
Individuals	18,433	773	16,456	66,324	5,898	442	107,884
Dependents	23,977	783	20,892	128,250	8,079	480	181,981
Total	42,410	1,556	37,348	194,574	13,977	922	289,865

Non-Group Contracts (Cont'd.)							
Mutual Companies							
Individuals	38,890	4,330	37,376	8,324	21,154	351	110,074
Dependents	37,409	3,460	33,133	7,030	24,977	311	106,009
Total	76,299	7,790	70,509	15,354	46,131	662	216,083
Fraternals and Co-operatives							
Individuals	10,257	1,582	12,657	6,095	6,371	4,945	36,962
Dependents	20,395	3,796	5,998	3,673	11,983	8,194	45,845
Total	30,652	5,378	18,655	9,768	18,354	13,139	82,807
Prepayment Plans							
Individuals	–	11,041	135,559	157,587	–	–	304,187
Dependents	–	7,569	164,834	228,368	–	–	400,771
Total	–	18,610	300,393	442,769(b)	–	–	761,772(b)
All Non-Group Contracts							
Individuals	67,580	17,726	202,048	238,330	33,423	5,738	559,107
Dependents	81,781	15,608	224,857	367,321	45,039	8,985	734,606
Total	149,361	33,334	426,905	662,465(b)	78,462	14,723	1,350,527(b)
Total Group and Non-Group Contracts							
Individuals	236,105	26,403	909,403	1,594,025	565,144	506,316	3,331,080
Dependents	370,902	31,231	1,403,558	2,885,159	1,305,926	803,228	5,996,776
Total	607,007	57,634	2,312,961	4,775,765(b)	1,871,070	1,309,544	9,624,437(b)

(a) "Individuals" are here defined as contract (or group certificate) holders.

(b) Total includes 1960 coverage reported by Group Medical Services and Medical Services, Incorporated, Saskatchewan. Coverage of these two plans was not available separately for contract holders and dependents. The total shown exceeds the number of individuals and dependents for this reason.

Source: Survey of Voluntary Carriers.

lized in the issuance of non-group contract, over-all acceptance of group coverage has far exceeded that of non-group coverage for each of the remaining carrier classes. In the case of the medical prepayment plans, 4.1 million persons were covered by group contracts; non-group coverage by these organizations amounted to only 762 thousand. For the stock and mutual insurance companies, again 4.1 million persons received protection from group contracts; only 506 thousand individuals and dependents were covered by policies issued on a non-group basis by these carriers.[1]

Comprehensive Coverage

In 1961, 6.6 million persons were reported either with comprehensive major medical expense contracts or with contracts providing surgical and medical coverage extending beyond purely in-hospital care.[2] An additional 1.3 million persons were shown to have supplementary major medical contracts in force, which, if accompanied by more basic surgical and/or medical coverage, as is likely to be the case, would imply a total of roughly 8 million persons with substantially complete coverage through the voluntary plans.[3] The remaining 1.6 million held more limited coverage. In the extreme, this was restricted to either surgical or medical care coverage alone or, in the absence of duplication of coverage reported, to surgical and in-hospital medical care coverage at most. No way of accurately determining the degree to which persons with these more limited contracts were in fact covered by two or more complementary forms of coverage is available at this time. However, to the extent that this duplication does occur, the estimated total number of individuals with some form of medical prepayment and/or insurance should be reduced.

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[1] Co-operative and Fraternal Societies accounted for a small proportion of total coverage. Less than 150 thousand persons were reported covered by these two classes of carrier. These organizations have, however, provided an important service in making coverage available to many individuals in rural or semi-rural areas who would not, in all probability, have acquired coverage had it not been for the presence of these small but locally active organizations.

[2] This total does not include persons eligible for benefits under any publicly supported medical care program. The 53,000-odd persons eligible in 1961 for benefits under the Swift Current Medical Care Programme, for example, are not included in these tabulations.

[3] This definition of "substantially complete coverage" simply means something more than in-hospital coverage. Even within the contracts included, a great deal of variance in coverage would be present. Comprehensive major medical contracts typically provide benefits for drugs, appliances, nursing, and hospitalization, in addition to insurance against the cost of physicians' services. These contracts can be truly comprehensive. Conversely, some contracts covering physicians' care beyond in-hospital services may be so limited as to provide protection that is inferior to complete in-hospital coverage. The classification scheme used here avoids some of the difficulty arising from the variability of medical insurance contracts, but not all of it. Some further detail, relevant in this connection, is provided in Chapter 3. Note also that the foregoing assumes that supplementary major medical contracts are always held by persons with *limited* "basic" contracts. This need not be the case. For every supplementary major medical contract sold "on top" of a comprehensive insurance or prepayment package, the estimate of 8 million Canadians with substantially complete coverage in 1961 should be correspondingly reduced.

MEDICAL INSURANCE AND PREPAYMENT PROTECTION IN EMPLOYER-EMPLOYEE ESTABLISHMENTS

With the cooperation of the Federal Department of Labour, the foregoing measures of coverage were supplemented by additional information relating to group contracts providing medical and prepayment protection in Canadian working establishments. This material was derived from a one-page supplementary questionnaire incorporated with the Department of Labour's 1962 Survey of Working Conditions.[1] This questionnaire was mailed in the spring of 1962 to all working establishments with 15 or more full-time employees.

This questionnaire did not attempt to estimate the actual number of workers and dependents in each establishment with medical insurance and/or prepayment protection. It was intended primarily to provide data showing the number and size of Canadian working establishments, by type of establishment, where group medical insurance or prepayment contracts covered the majority of employed persons.[2] The questionnaire was answered separately for office and non-office employees, and, in the case of the transportation industries, for operating employees as well.[3] Where group medical contracts were in force, the questionnaire requested detail regarding the health benefits provided, the eligibility of dependents, and the method of financing the premium cost of that contract.

Table 2–2 summarizes the response to this questionnaire for all establishments surveyed, with sub-totals for the major categories of manufacturing, metal mining, wholesale trade, and retail trade. In each instance, coverage is tabulated separately for office and for non-office employees. Table 2–3 provides this same information for the manufacturing industries separately by province.[4]

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[1] See Department of Labour, *Working Conditions in Canadian Industry*, Report No. 6 (1962). A working establishment is a geographically distinct place of business, not necessarily a separate company.

[2] A copy of those questions relating to medical prepayment and insurance coverage included with the Survey of Working Conditions questionnaire is provided in Appendix II.

[3] The Survey of Working Conditions considers these classes of employees independently. In each instance the employer is asked to answer questions of the basis on the working conditions affecting employees of the class under consideration. Thus, for example, if all office employees in a given establishment are eligible for participation in a group health insurance plan, whereas non-office employees are not, this establishment would report a health benefit plan in force for office workers, but no health benefit plan for non-office workers, even though the majority of all employees as a whole might be covered.

[4] This information and additional detail are available from the Department of Labour. See Department of Labour, *op. cit.* Tables 2–2 and 2–3 summarize data available from this source.

TABLE 2–2

WORKING ESTABLISHMENTS IN CANADA, BY TYPE OF GROUP HEALTH BENEFIT PLAN AND NUMBER OF EMPLOYEES, 1962

Item	All Employees		Office Employees			Non-Office Employees		
	Number of Employees	Per cent of Employees	Number of Reporting Units	Number of Employees	Per cent of Employees	Number of Reporting Units	Number of Employees	Per cent of Employees
1. *Health Benefit Plans*								
(a) Have Health Benefit plans	1,848,678	91.0	13,003	570,218	96	12,871	1,278,460	89
(b) Do not have Health Benefit plans	139,573	7.3	2,074	16,742	3	3,106	122,831	9
(c) No information reported	43,372	1.7	773	6,706	1	770	36,666	2
2. *Types of Plans*								
(a) "Major Medical" plans only	425,874	21.2	4,852	142,220	24	4,642	283,654	20
(b) Specified Basic Benefit plans only ...	853,752	41.6	4,174	186,239	31	4,840	667,513	46
(c) Combination of (a) and (b)	559,221	27.5	3,838	240,535	41	3,234	318,686	22
(d) No information on types of plans reported	9,831	1.0	139	1,224	–	155	8,607	1
3. *Types of Benefits*								
(a) Surgical and obstetrical benefits	1,760,895	86.6	12,025	550,407	93	11,883	1,210,488	84
(b) Physicians care in hospital	1,691,404	83.2	11,466	538,783	91	11,166	1,152,621	80
(c) Physicians home and office calls	1,471,223	72.5	9,455	481,951	81	9,127	989,272	69
(d) Special duty nursing care in hospital..	751,955	37.3	4,768	324,904	55	3,765	427,051	30
(e) Diagnostic X-ray and laboratory services, etc.	1,495,973	73.8	10,307	495,045	83	9,933	1,000,928	70
(f) Prescribed drugs	679,456	33.6	4,497	306,381	52	3,493	373,075	26
4. *Coverage*								
(a) Employees and dependents covered ..	1,736,000	85.6	11,754	546,103	92	11,577	1,189,897	83
(b) Employees only covered	31,679	1.7	248	4,976	1	304	26,703	2
(c) No information on coverage	71,168	3.0	862	17,915	3	835	53,253	3
5. *Financing of Plans*								
(a) By employer and employees jointly ...	1,355,416	66.7	9,204	417,719	71	9,310	937,697	65
(b) By employer only	273,910	13.3	1,404	84,274	14	1,345	189,636	13
(c) By employees only	155,410	7.6	1,595	52,674	9	1,474	102,736	7
(d) No information on financing	54,111	2.6	661	14,327	2	587	39,784	3

Source: Survey of Working Conditions.

TABLE 2–3

PERCENTAGE OF EMPLOYEES WITH GROUP HEALTH BENEFIT PLANS BY MAJOR INDUSTRY GROUPS, BENEFITS, COVERAGE, AND FINANCING, 1962

Industry Group	Coverage			Types of Benefits						Eligibility			Financing of Plans			
	Have Health Plans	No Health Plans	No Information	Surgical & Obstet.	Physicians Care in Hospital	Physicians Home and Office Calls	Special Nursing	X-ray & Lab. Services	Prescribed Drugs	Employees and Dependents Covered	Employees Only	No Information on Coverage	Employer and Employees	Employer Only	Employees Only	No Information
All Industries																
Canada	91	7	2	87	83	72	37	74	34	86	2	3	67	13	8	3
Office Employees	96	3	1	93	91	81	55	83	52	92	1	3	71	14	9	2
Non-Office Employees	89	9	2	84	80	69	30	70	26	83	2	3	65	13	7	3
Manufacturing																
Canada																
Office Employees	95	4	1	91	89	77	48	82	49	91	1	3	69	19	5	2
Non-Office Employees	90	8	2	85	80	67	28	71	29	84	2	3	65	18	4	2
Mining																
Canada																
Non-Office:																
Metal Mining	97	2	1	95	89	84	18	77	20	95	2	–	94	2	1	–
Coal Mining	24	73	3	22	22	19	1	11	1	22	–	2	3	–	19	2
Natural Gas	100	–	–	100	100	100	96	100	96	100	–	–	97	3	–	–
Crude Oil	93	6	1	90	88	88	54	87	48	88	–	5	82	–	1	10
Non-Metal	94	5	1	93	89	52	26	75	30	93	–	–	88	3	1	1
Quarrying	77	22	1	68	67	53	11	51	6	69	2	5	62	7	2	5
Prospecting	98	2	–	97	91	87	63	91	49	95	–	3	90	2	3	3
Transportation																
Canada																
Office Employees:																
Air Transport	99	1	–	98	98	97	81	97	81	98	–	1	86	–	12	1
Railway Transport	100	–	–	100	100	99	49	51	19	100	–	–	99	1	–	–
Urban & Suburban Pass.	100	–	–	82	82	82	2	81	5	82	–	18	46	9	5	–
Interurban Bus & Coach	99	1	–	85	83	74	44	80	33	81	5	5	80	–	7	4
Trucking	91	7	2	82	81	71	39	71	38	84	1	6	67	15	4	5
Water Transport	94	3	3	92	91	86	65	87	48	90	1	2	63	3	19	8
Non-Office Operating – Air	94	4	2	94	94	93	60	93	61	94	–	–	74	1	19	–
Running Trades Railway	99	1	–	99	99	99	58	60	1	99	–	–	98	–	1	–
Operating Urban & Sub.	99	1	–	72	71	72	4	69	4	71	1	27	94	1	4	–
Operating Interurban	97	2	1	91	87	49	19	47	13	86	5	3	87	–	4	3
Operating Trucking	87	11	2	78	75	64	33	70	31	77	3	7	66	13	3	5
Operating Water Transport	69	26	5	65	63	54	13	50	3	63	2	1	52	–	13	1
Others & Air Transport	97	1	2	95	95	94	71	94	71	95	–	2	81	–	14	2
Railway	100	–	–	100	100	99	55	62	8	100	–	–	100	–	–	–
Urban & Sub. Pass.	99	–	1	70	70	70	3	68	4	70	–	29	95	1	3	–
Interurban	96	2	2	83	79	66	30	71	14	75	10	3	78	–	7	3
Trucking	90	8	2	84	83	76	39	77	36	84	–	6	73	9	4	4

TABLE 2–3 (Concluded)

Industry Group	Coverage			Types of Benefits						Eligibility			Financing of Plans			
	Have Health Plans	No Health Plans	No Information	Surgical & Obstet.	Physicians Care in Hospital	Physicians Home and Office Calls	Special Nursing	X-ray & Lab. Services	Prescribed Drugs	Employees and Dependents Covered	Employees Only	No Information on Coverage	Employer and Employees	Employer Only	Employees Only	No Information
Storage																
Canada																
Office Employees																
Grain Elevators	96	4	–	70	68	48	38	77	38	89	–	7	74	–	16	6
Storage & Warehousing	91	8	1	85	81	57	17	71	24	86	–	5	62	8	15	6
Non-Office																
Grain	92	8	–	85	71	58	10	67	9	85	–	7	69	–	14	9
Storage & Warehousing	81	16	3	71	64	45	8	52	16	71	–	5	48	4	17	7
Public Utilities & Communication																
Canada																
Office Employees																
Electric, Gas & Water	100	–	–	99	98	92	26	94	27	99	–	1	81	11	7	1
Telephone	100	–	–	100	100	99	82	99	49	100	–	–	4	69	27	–
Radio & T.V.	97	3	–	96	95	91	12	94	9	95	–	2	28	1	67	1
Non-Office																
Electric, Gas & Water	99	1	–	98	97	92	27	89	26	98	–	1	81	12	5	1
Telephone	100	–	–	100	100	99	69	99	60	100	–	–	7	57	36	–
Radio & T.V.	96	3	1	95	95	90	13	92	11	94	–	2	32	1	61	2
Municipal Public Works																
Canada																
Office Employees	93	3	4	91	91	82	27	74	17	82	–	11	87	–	4	2
Non-Office Employees	90	9	1	85	85	78	16	63	15	74	6	10	76	1	8	5
Services																
Canada																
Non-Office Employees																
Hotels	71	23	6	66	60	54	18	46	6	65	1	5	53	9	6	3
Restaurants	45	49	6	39	39	29	19	33	12	40	1	4	32	3	8	2
Laundries & Dry Clng.	61	30	9	51	50	38	11	46	10	49	7	5	42	1	15	3
Trade																
Canada																
Office Employees																
Wholesale	95	4	1	89	86	73	46	78	45	88	2	5	64	13	13	5
Retail Trade	93	4	3	84	81	67	34	74	29	79	3	10	53	4	27	8
Non-Office-Wholesale	86	11	3	81	78	64	35	70	33	78	2	6	58	10	13	5
Retail-Sales	84	7	9	75	69	55	27	67	27	71	3	8	54	6	16	6
Other	90	5	5	82	78	64	30	70	26	77	3	9	56	4	21	8
Finance & Insurance																
Canada																
Office Employees																
Bank	100	–	–	100	100	95	100	100	100	100	–	–	100	–	–	–
Life Insurance	98	2	–	97	95	91	89	96	81	98	–	–	94	2	2	–
Non-Life Insurance	96	3	1	93	88	74	57	88	50	93	–	3	60	7	27	2
Investment & Loan	95	4	1	90	90	72	62	83	71	91	–	3	64	22	6	2

Source: Survey of Working Conditions.

For all of Canada, and for all working establishments reporting, a total of 1,849 thousand employees was reported employed in establishments where the majority of similar (that is, office or non-office) employees were covered by some form of health benefit plan. This percentage was higher, and coverage was also broader, for office as opposed to non-office employees. Ninety-six per cent of all office employees included by the Survey were covered by a health benefit plan of some sort.[1] The corresponding figure for non-office employees was 89 per cent. This is remarkably complete coverage. On the other hand, these figures include a worker who is not covered by an available plan as long as 50 per cent or more of his co-workers are covered. Coverage reported by this Survey is therefore a maximum. It includes persons and dependents without coverage to the extent that group plans in force covered only the majority and not all employees considered. The theoretical minimum, assuming accuracy in questionnaire response, would be 50 per cent of the coverage shown.[2]

As previously noted, the degree of coverage reported by the Survey of Working Conditions was noticeably higher for office than for non-office employees. Even where both office and non-office employees were covered, benefits for the former tended to be more complete. In many cases, a supplementary "major medical" contract was available to office, but not to non-office workers.

For both groups of employees, the great majority of plans were financed jointly by employer and employee. Less than 10 per cent of all workers covered by this Survey were employed in establishments where health benefit plans were financed solely by the employees themselves. This bears out the general picture presented by Table 2–1; the widespread popularity of group contracts has unquestionably been enhanced by their use as a "fringe benefit" in working establishments. Seventy per cent of all employees with such group protection are shown by Table 2–2 to be employed in establishments where the cost of this protection is borne either entirely or in part by the employer. Furthermore, more than 90 per cent of these plans extended benefits on an optional basis to the dependents of workers electing coverage.[3]

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[1] The term "health benefit plan" was selected as one that would be readily understood by questionnaire respondents. In retrospect, it appears that the more formal "medical insurance or prepayment plan" would have been preferable. See footnote 2, below.

[2] Survey data are notoriously subject to reporting error. The Department of Labour's Survey of Working Conditions is planned and administered with far more than the usual amount of care both in the construction of the questionnaire and in the editing of replies. The questions relating to health benefit plans appear, fortunately, to have been well answered. In many instances more information than was requested was volunteered. There was, however, some indication that reporting establishments considered "loss-of-income" insurance as a health benefit, which, of course, it is. On the other hand, this study is primarily concerned with medical insurance or prepayment rather than sickness and accident insurance providing benefits for loss of income. Because this questionnaire did not distinguish as clearly between these two forms of protection as would have been desirable, coverage reported here is probably high. These data are not, however, inconsistent with the group coverage reported in Table 2–1. See also footnote 1, p. 20.

[3] Table 2–2 shows 91 per cent of the labour force included by the Survey in establishments where the majority of workers were covered by a health benefit plan. Eighty-five per cent, or 94 per cent of workers in establishments with group coverage, were covered by plans which extended benefits to the dependents of participating employees.

The pattern of coverage among industry groups is illustrated by Table 2–3.[1] The most complete coverage was reported by financial institutions. At the bottom of the scale, workers in coal mining establishments are shown with the lowest percentage of covered employees in every category. Only 24 per cent of all employees in coal mining were in establishments where the majority of workers were covered by any form of health benefit plan. This pattern is in marked contrast with the natural gas industry, where coverage is virtually universal. Generalization from this table is difficult. It does appear, however, that those industries composed of relatively large-scale firms seem to offer more complete group protection than do industries, such as retail trade, where firms are predominantly small.

Table 2–4 shows a provincial breakdown for manufacturing employees. Coverage is most complete in the more industrial provinces of Ontario and Quebec, and in Alberta and British Columbia. With the exception of Newfoundland, coverage for manufacturing employees is only slightly less complete in the remaining provinces. In Newfoundland, however, fewer than 50 per cent of non-office workers were employed in establishments where group health plans covered 50 per cent or more of the full-time workers.

In comparison with Table 2–1, the more detailed Tables 2–2, 2–3, and 2–4, suggest that where coverage is available it generally provides benefits for surgery, maternity, and physicians' hospital calls. Most contracts also appear to offer benefits for house calls and at least some laboratory and X-ray services. Benefits for special duty nursing and drugs were offered much less frequently, and far more often for office workers than for production workers. In general, these tables support the emphasis on the more complete packages implied by Table 2–1.

The most interesting part of Tables 2–2 through 2–4 relates to the widespread financial support of group plans by employers. The advantages of group as opposed to non-group coverage, from the standpoint of cost to the individual, are far greater than even the cost comparisons of Chapter 4 of this study imply. In this light, the predominance of group coverage reported in Table 2–1 is not surprising.

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[1] The general acceptance of loss-of-income insurance as a "health benefit plan" is suggested by the disparity between columns (1) and (4) of this table. Most, if not all, group medical plans would be expected to cover surgical and obstetrical services. The percentage of workers with these benefits tends to be consistently lower than the percentage of workers with group coverage under a "health benefit plan". For this reason, columns (4) through (9) are better indicators of actual medical coverage than column (1).

TABLE 2–4

PERCENTAGE OF EMPLOYEES WITH GROUP AND HEALTH BENEFIT PLANS – MANUFACTURING: BENEFITS, COVERAGE, AND FINANCING, BY PROVINCE, 1962

Manufacturing by Provinces	Coverage			Types of Benefits						Eligibility			Financing of Plans			
	Have Health Plans	No Health Plans	No Information	Surg. and Obstet.	Physicians Care in Hospital	Physicians Home and Office Calls	Special Nursing	X-ray and Lab. Services	Prescribed Drugs	Employees and Dependents Covered	Employees (Only)	No Information on Coverage	Employer and Employees	Employer (Only)	Employees (Only)	No Information
Newfoundland																
Office Workers	67	32	1	66	63	59	29	47	28	66	–	1	57	4	5	1
Non-Office Workers	49	49	2	49	47	47	25	34	2	49	–	–	46	2	1	–
Prince Edward Island																
Office Workers	92	8	–	80	80	54	3	59	25	78	–	14	74	2	3	13
Non-Office Workers	82	18	–	80	80	59	15	70	28	77	–	5	78	2	–	2
Nova Scotia																
Office Workers	86	13	1	85	79	83	16	64	9	83	2	1	71	11	3	1
Non-Office Workers	82	17	1	80	76	75	9	62	7	77	4	1	56	19	6	1
New Brunswick																
Office Workers	92	5	3	89	87	61	26	66	27	85	4	2	57	4	28	2
Non-Office Workers	83	12	5	81	75	35	18	40	19	73	7	2	54	9	18	1
Quebec																
Office Workers	94	4	2	90	89	71	65	81	68	91	–	3	74	12	6	2
Non-Office Workers	88	9	3	82	77	54	38	65	42	82	1	3	71	8	4	3
Ontario																
Office Workers	96	3	1	93	89	78	44	83	45	93	1	2	63	27	4	2
Non-Office Workers	92	6	2	88	82	72	25	74	25	88	2	2	57	29	4	2
Manitoba																
Office Workers	85	9	6	79	78	77	22	75	22	77	1	5	57	6	16	4
Non-Office Workers	78	17	5	72	68	66	16	64	18	69	2	6	58	5	11	3
Saskatchewan																
Office Workers	91	8	1	82	78	78	36	75	16	77	4	9	53	7	22	8
Non-Office Workers	86	10	4	76	74	72	26	67	9	71	6	9	50	5	21	10
Alberta																
Office Workers	96	3	1	94	93	90	44	91	44	93	–	3	86	1	7	2
Non-Office Workers	90	9	1	85	85	82	22	82	20	85	1	4	77	1	8	4
British Columbia																
Office Workers	98	2	–	95	95	94	27	93	28	94	–	4	92	2	–	4
Non-Office Workers	95	4	1	93	93	92	15	91	17	92	–	3	90	2	–	3

Source: Survey of Working Conditions.

SUMMARY

This chapter indicates that roughly 53 per cent of the total Canadian population had some form of medical or surgical protection in 1961. About four-fifths of those covered, 44 per cent of the total Canadian population, appear to have had coverage providing benefits beyond in-hospital physicians' care. Of the 8 million persons in this category, the majority, 7.2 million, received protection under group contracts. A large percentage of these obtained coverage as a fully or partially paid fringe benefit in Canadian working establishments.

The data for working establishments show remarkably complete coverage by group contracts. But there are exceptions. Coverage reported in Newfoundland was significantly below that of the other provinces. Some industry groups, notably coal mining, lagged behind the more urban or larger scale industries. As a rule, production workers were offered, or demanded, less in the way of coverage than did managerial or office employees. Nevertheless, the 1962 *Survey of Working Conditions* does indicate substantial coverage by, and substantial support for, group medical plans in Canadian working establishments.

The other side of the picture shows more than eight million Canadians with no direct surgical or medical protection in 1961. An additional 1.6 million persons had protection amounting, at most, to coverage of surgical procedures and in-hospital physicians' care. The rate of growth of voluntary coverage, rapid in the post-war period, has recently slackened.[1] Coverage in working establishments is extensive, but fewer than one million Canadians elected comprehensive voluntary protection on a non-group basis in 1961. Whatever the potential growth of this industry may be, and despite the almost universal use of health plans as fringe benefits in the industrial sector, it seems reasonably safe to assert that at the present time less than 50 per cent of the population at large is protected in any substantial way from the costs of medical care, emergency or otherwise, through comprehensive voluntary medical insurance or prepayment.

[1] Recent material released by the Canadian Conference on Health Care shows no increase in total coverage between 1961 and 1962. Changes in techniques followed in reporting these data to the Canadian Conference may, however, make this comparison unreliable. See Canadian Conference on Health Care, "Survey of Voluntary Health Insurance in Canada" (mimeo).

CHAPTER 3

UNDERWRITING RULES AND PRACTICES

This chapter provides a summary of underwriting procedure based on replies to the Royal Commission survey of health insurance carriers in Canada described in Chapter 2.[1] Its content is chiefly in the form of a series of tables. The more important and significant features are noted in the accompanying text.

This material was derived from a tabulation of replies from 95 carriers. The distribution of these 95 carriers, by type of organization and by major type of contract issued, is shown in Table 3–1.[2] In some instances, one or more carriers failed to answer certain questions.[3] The total number of replies indicated in the later tables may be less than would be expected from Table 3–1 for this reason.

TABLE 3–1

NUMBER OF MEDICAL INSURANCE AND PREPAYMENT CARRIERS, BY TYPE OF ORGANIZATION AND CLASS OF CONTRACT ISSUED, 1961

Type of Carrier	Number of Carriers Issuing		
	Group Contracts Only	Non-Group Contracts Only	Group and Non-Group Contracts
Stock Companies	8	10	18
Mutual Companies	12	3	8
Co-operatives and Fraternals	6	11	5
Prepayment Plans	2	1	11
Total, All Carriers	28	25	42

Source: Survey of Voluntary Carriers.

[1] See pages 9 and 10. A replica of the questionnaire used in this survey, with the accompanying instructions, is available in Appendix I.

[2] Group carriers are defined as those with group contracts in force, regardless of whether non-group contracts are available. Similarly, non-group carriers are defined as those carriers offering non-group contracts. Carriers offering only group contracts were not asked to answer questions relating to non-group underwriting and *vice versa*.

[3] A frequent explanation for this was that data were "not available". In other instances no explanation was provided.

GROUP UNDERWRITING

Seventy of 95 carriers reporting issued at least some form of group surgical and/or medical contract in 1961. Table 3–2 provides detail regarding the type of group contract available from each major class of group carrier. The range in contract content is wide. There appears to be little tendency, as evidenced by this material, for the voluntary carriers to influence choice by restricting the availability of coverage to a few inclusive packages.[1] Should a group wish, for example, to buy protection against only surgical expense, 33 of 70 carriers issuing group contracts were willing to make such a package available. In the extreme, 11 carriers indicated that independent contracts covering medical expenses but not surgery were available in 1961.[2] The buyer of group medical insurance was not, therefore, constrained by a lack of availability of particular types of contract. Not only was a wide variety of contracts available from each class of carrier, but the group buyer was not confined for any given type of contract to any single class of carrier. Medical coverage could quite readily be obtained from one class of carrier, surgical from another.

The recent trend, however, has been away from the more limited or segmented type of coverage and very much towards the more inclusive or comprehensive package. It is significant in this context that only one prepayment organization even offered, let alone sold in volume, contracts for surgical or medical coverage only. Only 7 of 13 prepayment plans reported an in-hospital plan in force. Only one of 46 stock and mutual insurance companies with any group business failed to offer a comprehensive major medical contract in 1961. The coverage reported in Chapter 2 is not inconsistent with this breakdown. Whatever the pattern may have been in the past, emphasis in group underwriting at the present time leans very much towards the more inclusive packages. It is a reasonable inference that many of the more limited contracts reported do not comprise the whole of the insured group's protection.

Experience Rating

Most group contracts in Canada, certainly the large ones, are experience rated. For individual groups, this has the effect of guaranteeing to the group that it will not carry claims costs attributable to the unfavourable experience of other groups. This practice tends to reduce the insurance function to one of risk alleviation within groups, eliminating any substantial element of insurance among groups.

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[1] The pattern of coverage available varies somewhat by type of carrier. As would be expected, the commercial carriers are most liberal in this regard. The emphasis of the prepayment plans on fairly complete in-hospital or comprehensive coverage is, in contrast, quite apparent in Table 3–2.

[2] It is likely that this limited coverage was issued to groups with other complementary coverage in force. The questionnaire requested that individuals be reported only once according to the entire insurance or prepayment package obtained. It is possible, however, these instructions were not accurately followed in all instances. Alternatively some groups may have obtained complementary coverage from two or more carriers.

TABLE 3–2

NUMBER OF CARRIERS REPORTING GROUP CONTRACTS, BY TYPE OF CONTRACT AND CLASS OF CARRIER, 1961

Type of Contract and Class of Carrier	Number of Carriers Reporting Contract:		
	Not Available	Available Separately	Available only with Other Coverage
Surgical Procedures Only			
Stock Companies	3	14	9
Mutual Companies	0	15	5
Co-operatives	4	3	4
Prepayment Groups	11	1	1
Total, All Carriers	18	33	19
Medical Care Only (no surgical benefits)			
Stock Companies	8	2	16
Mutual Companies	0	7	13
Co-operatives	10	1	0
Prepayment Groups	11	1	1
Total, All Carriers	29	11	30
Surgical Procedures and In-hospital Medical Care			
Stock Companies	2	20	4
Mutual Companies	0	16	4
Co-operatives	6	1	4
Prepayment Groups	6	7	0
Total, All Carriers	14	44	12
Surgical Procedures and Medical Care In-hospital, Clinic, Home & Office			
Stock Companies	3	20	3
Mutual Companies	0	16	4
Co-operatives	7	2	2
Prepayment Groups	0	13	0
Total, All Carriers	10	51	9
Major Medical Expense—Comprehensive or Basic Type			
Stock Companies	1	22	3
Mutual Companies	0	20	0
Co-operatives	6	5	0
Prepayment Groups	13	0	0
Total, All Carriers	20	47	3
Major Medical Expense—Supplementary Type			
Stock Companies	3	14	9
Mutual Companies	0	18	2
Co-operatives	5	0	6
Prepayment Groups	9	0	4
Total, All Carriers	17	32	21

Source: Survey of Voluntary Carriers.

Table 3–3 summarizes the response of Canadian carriers to questions regarding the extent of their group rating procedures. The stock and mutual insurance companies are leaders in this area. Of 46 such companies providing this information, 25 reported that all group contracts were experience rated. Another 19 indicated that at least some group contracts were experience rated.

TABLE 3–3

CARRIERS REPORTING GROUP RATING FOR ALL, SOME, OR NO GROUPS, BY CLASS OF CARRIER, 1961

Class of Carrier	Number of Carriers Issuing Group Contracts	Number of Carriers Group Rating:		
		All Groups	Some Groups	No Groups
Stock Companies	26	15	9	2
Mutual Companies	20	10	10	0
Co-operatives	11	3	2	6
Prepayment Plans	13	2	5	6
All Carriers	70	30	26	14

Source: Survey of Voluntary Carriers.

This record contrasts with that of the cooperatives and prepayment plans. Six of 11 cooperatives and 6 to 13 prepayment organizations indicated no experience rating whatsoever. Although the prepayment plans have generally opposed experience rating on the grounds that individuals with unfavourable experience may be "unfairly" excluded, or high cost groups "penalized", the pressure of competition in the group field has apparently been such that at least some, in this case 7, prepayment plans have found it necessary to meet the experience rated contracts of the commercial carriers with experience rated contracts of their own.

Group Eligibility

Table 3–4 shows the extent to which all, some, or none of the group coverage offered by these different carriers is available to various types of group or association. As would be expected, all but two carriers were active in offering insurance or prepayment protection to employer-employee groups.[1] Acceptance by

[1] Groups are classified according to the activity which determines an individual's membership in the defined group. Thus, for example, employer-employee groups are groups of people who work for a common employer; union groups comprise members of the same union or local; professional and trade association groups include members of the same profession or trade association, and so on. Associations of retired persons would typically include retired members of a profession — school teachers for example — forming an organization for some purpose other than eligibility for group medical protection.

carriers of other types of group was more restrictive, but no category of group listed was without some measure of eligibility. Associations of retired or physically handicapped persons had the least choice, but this may simply reflect the small number of such groups with the consequence that few carriers found it worthwhile to extend coverage in this direction. This interpretation is supported by the only slightly more favourable position of fraternal, religious groups, where the adverse risk of older age and supposedly higher costs of the physically handicapped are less likely to be present.

The major demand or pressure for group coverage has come from the employer-employee groups, from union groups, and from professional organizations. It is not surprising to find underwriting practices oriented in this direction. The more limited access to group coverage in the case of other groups is therefore apt to be at least partly misleading. Short-term contracts for these groups do not present underwriting problems of any basic or insurmountable dimension provided that group membership is not related to the availability of medical insurance or prepayment protection. It is not in the interest of the carriers themselves to be restrictive. Indeed, quite the opposite is the case. It is probable, therefore, that Table 3–4 illustrates the interaction of a desire for coverage by various categories of groups on the one hand, and of the administrative feasibility of the extension of this coverage on the other. With increased experience, underwriting should become increasingly permissible in this regard.

Minimum Group Size and Participation

Table 3–5 shows the range in minimum group size and corresponding participation rates by type of carrier and type of group as reported to the Royal Commission.[1] The emphasis on employer-employee and union groups is again apparent. Where coverage is available, minimum group size required tends to be substantially lower for these two types of groups than for other groups for which coverage is available. Although high participation is understandably imposed, the small group has apparently proven a successful innovation in the health insurance and prepayment field.[2] The relationship between group size and mandatory participation is indicated by Table 3–6. Participation requirements fall, of course, with increasing group size. The lowest reported was 50 per cent, but, in general, participation of at least 75 per cent was required even for large groups.

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[1] Participation rates are defined in terms of the total size of the eligible group. Thus, for example, if the total number of persons employed by a given firm is 25, and if the applicable participation rate is 80 per cent, at least 20 employees must participate if the group is to meet this eligibility requirement.

[2] Participation requirements are imposed to avoid the unfavourable (to the carrier) risk selection that would result were only those persons with adverse medical expectations to elect coverage. In the absence of such requirements, unfavourable risk selection would be expected. Individuals with, say, surgical or maternity procedures already planned would have greater than average incentive to elect participation. From the viewpoint of the individual, the advantage of group protection lies in automatic eligibility and the avoidance of medical requirements and frequently of waiting periods imposed by non-group contracts. (There is also, as is argued in Chapter 4, a greater degree of active price competition among carriers in the group field and a generally lower level of gross premiums for equivalent benefits.) From an underwriting standpoint, these advantages or privileges can be extended at group premium rates only when participation percentages guarantee that the selection of persons will be average or reasonably close to it. High participation, even in small groups, will generally accomplish this. As the groups are defined, the primary motive of the association of persons is not attainment of group medical protection.

TABLE 3–4

NUMBER OF CARRIERS REPORTING GROUPS ELIGIBLE AND NOT ELIGIBLE FOR COVERAGE, BY CLASS OF CARRIER AND TYPE OF GROUP, 1961

Type of Group	Number of Carriers Reporting Group		
	Eligible for All Group Contracts	Eligible for Some Group Contracts	Not Eligible
Employer-Employee Group			
Stock Companies	24	0	0
Mutual Companies	20	0	0
Co-operatives	9	1	1
Prepayment Plans	12	0	1
Total, All Carriers	65	1	2
Union Groups			
Stock Companies	20	1	3
Mutual Companies	13	2	5
Co-operatives	5	1	5
Prepayment Plans	10	0	3
Total, All Carriers	48	4	16
Professional or Trade Associations			
Stock Companies	12	7	5
Mutual Companies	15	3	2
Co-operatives	4	1	6
Prepayment Plans	11	0	2
Total, All Carriers	42	11	15
Agricultural Organizations			
Stock Companies	6	4	14
Mutual Companies	5	1	14
Co-operatives	5	3	3
Prepayment Plans	10	0	3
Total, All Carriers	26	8	34
Fraternal, Religious, Ethnic Groups			
Stock Companies	3	5	16
Mutual Companies	2	—	18
Co-operatives	5	3	3
Prepayment Plans	6	2	5
Total, All Carriers	16	10	42
Associations of Retired Persons			
Stock Companies	1	4	19
Mutual Companies	3	—	17
Co-operatives	3	1	7
Prepayment Plans	7	1	5
Total, All Carriers	14	6	48
Associations of Physically Handicapped Persons			
Stock Companies	1	7	16
Mutual Companies	2	—	18
Co-operatives	1	1	9
Prepayment Plans	4	2	7
Total, All Carriers	8	10	50
Municipal or Community Groups			
Stock Companies	9	1	14
Mutual Companies	7	1	12
Co-operatives	5	3	3
Prepayment Plans	10	0	3
Total, All Carriers	31	5	32

Source: Survey of Voluntary Carriers.

TABLE 3–5

HIGHEST AND LOWEST MINIMUM GROUP SIZE AND PARTICIPATION RATES, BY TYPE OF GROUP AND CLASS OF CARRIER, 1961

Type of Group	Minimum Group Size		Minimum Participation Rate	
	Lowest	Highest	Lowest	Highest
	(persons)	(persons)	(per cent)	(per cent)
Employer-Employee Groups				
Stock Companies	3	50	75	100
Mutual Companies	3	25	75	100
Co-operatives	3	25	75	100
Prepayment Plans	3	25	50	100
Union Groups				
Stock Companies	5	100	75	100
Mutual Companies	5	150	75	100
Co-operatives	4	25	75	100
Prepayment Plans	3	25	50	100
Professional or Trade Associations				
Stock Companies	5	300	50	100
Mutual Companies	25	600	10	85
Co-operatives	4	25	75	100
Prepayment Plans	3	25	50	100
Agricultural Organizations				
Stock Companies	5	500	50	100
Mutual Companies	1	100	50	85
Co-operatives	4	25	80	100
Prepayment Plans	3	25	50	100
Fraternal, Religious, Ethnic Groups				
Stock Companies	25	100	50	100
Mutual Companies	25	100	75	75
Co-operatives	4	25	80	100
Prepayment Plans	3	25	50	100
Associations of Retired Persons				
Stock Companies	25	25	75	100
Mutual Companies	25	100	75	75
Co-operatives	4	4	80	80
Prepayment Plans	3	25	75	100
Associations of Physically Handicapped Persons				
Stock Companies	10	100	75	100
Mutual Companies	25	100	75	75
Co-operatives	4	4	80	80
Prepayment Plans	3	25	75	100
Municipal or Community Groups				
Stock Companies	10	200	50	100
Mutual Companies	10	100	75	100
Co-operatives	4	25	80	100
Prepayment Plans	3	25	50	100

Source: Survey of Voluntary Carriers.

TABLE 3–6

MINIMUM PARTICIPATION RATES,
BY SIZE OF GROUP AND CLASS OF CARRIER, 1961

Size of Group	Type of Carrier	Minimum Participation[a]	
		Range	Average
			(per cent)
5	Stock Companies	75–100	99
	Mutual Companies	75–100	84
	Co-operatives	75–100	88
	Prepayment Plans	75–100	96
10	Stock Companies	75–100	88
	Mutual Companies	75–100	84
	Co-operatives	75–90	82
	Prepayment Plans	75–100	90
25	Stock Companies	75–100	82
	Mutual Companies	75–90	77
	Co-operatives	75–97	80
	Prepayment Plans	75–85	76
50	Stock Companies	75–100	76
	Mutual Companies	75–85	75
	Co-operatives	60–90	75
	Prepayment Plans	75–75	75
150	Stock Companies	50–75	75
	Mutual Companies	75–75	75
	Co-operatives	60–100	75
	Prepayment Plans	75–75	75
500	Stock Companies	75–75	75
	Mutual Companies	75–75	75
	Co-operatives	50–75	62
	Prepayment Plans	75–75	75

(a) Range shown is from the figure reported by the carrier with the lowest required participation to that reported by the carrier with the highest required participation.

Source: Survey of Voluntary Carriers.

Coverage of Dependents

Table 2–1 of Chapter 2 lists approximately 6 million dependents covered by group medical insurance or prepayment contracts. The majority of these were the wives (or husbands) and children of group members. Of 67 organizations reporting, all but one showed both spouse and children eligible for coverage as dependents of group members.[1] None of these organizations distinguished between adopted and natural-born children. Only 52, however, extended, or were willing to extend, coverage to natural-born children at birth. The remainder allowed coverage of these dependents only after a waiting period, frequently 14 to 90 days after birth, or a period determined by the duration of initial hospital stay.[2] Forty-nine carriers accepted wards as eligible minor dependents; 35 would extend coverage to a spouse even though legally separated; and 12 would continue, at the group member's option, to cover a divorced spouse. In addition, 23 listed other categories of eligible dependents. See Table 3–7.

Termination of Coverage

For the individual group member, group medical insurance or prepayment may be terminated involuntarily in two ways.[3] Coverage for the group as a whole may be terminated, either through the action of his fellow members or at the option of the insurer. Alternatively, the individual member may lose his coverage by a severing of his association with the covered group. In some instances such loss of group membership may occur for medical reasons.[4]

Outright cancellation of group coverage by a carrier is rare; the alternative of re-rating group contracts eliminates any major incentive in this direction.[5] This is not to say that group coverage has not on occasion been dropped at a carrier's initiative. However, given the nature of group business, this device is not an effective means for improving risk selection. A single individual's coverage cannot be cancelled without cancellation of the group's coverage as a whole. Even with small groups the advantage of such action may be doubtful. It may happen, but general underwriting practice seems to be directed more to the

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[1] The one exception appears to stem from an error in reporting by the company in question.

[2] This qualification should not be minimized. When serious (and expensive) infant disorder occurs, it frequently does so at or immediately following birth. Delaying coverage of new-born infants until initial hospital discharge avoids, for the carrier, liability from this source. Both from an insurance viewpoint, however, and from the viewpoint of the insured, it is precisely this period, the in-hospital period, which should be covered. This exclusion fortunately appears to be on the way out. It represents a particularly undesirable underwriting application.

[3] Voluntary termination, termination at the individual's option, can occur at any time. He can simply withdraw from participation in the group and no longer contribute to the group premium. The exception to this is when coverage is provided as a fully paid fringe benefit. In this case voluntary termination has little meaning.

[4] Early retirement, job shifts, or even some geographic moves may be a consequence of deteriorating health.

[5] For very small groups, those with less than ten members experience rating is not really a feasible alternative. At this level the problems of group coverage blend with those of non-group coverage to the point where differentiation is not too meaningful. Here some of the discussion provided below with respect to non-group underwriting practices may be applicable.

TABLE 3–7

NUMBER OF CARRIERS REPORTING ELIGIBILITY OF DEPENDENTS FOR GROUP COVERAGE, BY RELATIONSHIP OF DEPENDENT AND CLASS OF GROUP CARRIER, 1961

Dependent	Stock Companies		Mutual Companies		Co-operatives		Prepaid Plans		All Carriers	
	Eligible	Ineligible	Eligible	Ineligible	Eligible	Ineligible	Eligible	Ineligible	Eligible	Ineligible
	(number of carriers)									
Natural children at birth[a]	16	9	15	5	9	1	12	0	52	15
Natural children 14 to 90 days of age	8	–	5	–	0	–	0	–	13	–
Natural children after initial hospital discharge	1	–	0	–	1	–	0	–	2	–
Adopted children	25	0	20	0	10	0	12	0	67	0
Wards	18	7	16	4	9	1	6	6	49	18
Spouse	24	1	20	0	10	0	12	0	66	1
Spouse if divorced	2	23	2	18	1	9	7	5	12	55
Spouse if separated	18	7	6	14	2	8	9	3	35	32
Other specific classes	6	19	9	11	2	8	6	6	23	44

(a) Children eligible for coverage at birth are, of course, eligible for coverage at 14 days of age or after initial hospital discharge. This table shows, in rows two and three, the number of carriers reporting coverage *only* after the indicated waiting periods.

Source: Survey of Voluntary Carriers.

problem of maintaining minimum group size and participation requirements than to outright cancellation of groups with unfavourable underwriting experience. Although this information is not shown by the tables, 14 of 62 carriers reporting indicated that group contracts are cancelled at the first renewal period if minimum participation requirements are not maintained. Another seven reported that coverage would be terminated within 12 months if participation remained unfavourable. The remainder (41) indicated that other action, presumably in the form of threats to cancel, cancellation, or re-rating would be taken if satisfactory participation was not restored.

Similarly, in response to a question addressed to all group carriers regarding the level of outright cancellation of group contracts, 26 of 62 reported some cancellation, mostly at levels of less than 1 per cent of premium income. Several organizations reported cancellation rates as high as 2 per cent. Two reported cancellation of more than 2 per cent of earned premiums. If the upper limit of these estimates of cancellation is accepted, roughly $442,000 of premium income was rejected by these carriers at their option in 1961.[1] The most common reasons for cancellation were failure to maintain group size or participation requirements, and failure to pay premiums.

Group Conversion Privileges

More important, from the viewpoint of the insured, is not the fate of his group at the hands of the insurer, but rather the insured's own opportunities for continued protection should he leave his group or otherwise fail to maintain his group eligibility. Continued protection for the individual under these circumstances can be guaranteed, though admittedly at increased cost, only if his group contract carries with it the right to convert group coverage to a non-group basis. Table 3–8 summarizes the response obtained from the group carriers to the question: "Does your organization issue group contracts which guarantee an individual member who leaves the group, for any reason, the right to convert his coverage to an individual basis without proof of insurability and regardless of age?" Secondary tabulations show a breakdown according to whether this provision was available to all groups and with all forms of coverage. Forty-seven of 70 group carriers reporting had guaranteed conversion privileges available in 1961. Thirty-seven offered guaranteed group conversion to all groups; 16 made it available with all forms of coverage issued.[2]

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[1] These 62 carriers reported total earned premiums from group business of $202,051,203 in 1961.

[2] The availability of these guarantees does not mean that coverage with these guarantees will be selected. These guarantees are not without cost to the carrier, and this is generally reflected in increased premium rates. The higher cost of guaranteed renewable term life insurance, as compared to non-renewable (straight) term, is analogous in this regard. Furthermore, even with these guarantees, it is by no means clear that individuals will exercise them. In a very interesting examination of individual practices in this regard, a Michigan study reported that 33 per cent of a sample of 2,481 workers laid off work in the Detroit area in 1958 allowed coverage to lapse at the end of 20 days, even though continued coverage was available on payment of premiums due. A further 24 per cent of these workers laid off allowed coverage to lapse at a later date. See W.J. McNerney, *et al.*, *Hospital and Medical Economics* (Chicago, 1962), pp. 1117–28.

TABLE 3-8

GROUP CARRIERS REPORTING GUARANTEED GROUP CONVERSION, BY CLASS OF CARRIER, 1961

Class of Carrier	Number of Carriers Reporting Guaranteed Group Conversion				
	Not Available	Available:			
		To All Groups	To Some Groups	With All Coverage	With Some Coverage
Stock Companies	9	11	6	3	14
Mutual Companies	7	9	4	2	11
Co-operatives	4	7	0	5	2
Prepayment Plans	3	10	0	6	4
Total	23	37	10	16	31

Source: Survey of Voluntary Carriers.

Age Limits

Maximum age limits do not appear to be a major factor restricting the availability of group coverage. Table 3–9 lists the range in maximum age limits imposed by each carrier class for both renewal and initial group applications. Contracts with no upper age limit for either initial or renewal of group coverage were available from each class of carrier.[1] However, the availability of coverage with high or no age limits in no way assures the election of that coverage. Medical costs do rise with age.[2] Groups anxious to minimize or curtail current expenditure may well economize, not necessarily wisely, by electing coverage with relatively stringent age requirements. Table 3–9 only indicates that where coverage is available it is also generally available without upper age limits. No attempt has been made in this study to determine the extent to which group contracts in force actually contain upper age limits. Furthermore, these limits refer to group coverage. When an individual ceases to be insured with a group, as will often be the case with advancing age, he becomes subject not to the limitations imposed by group contracts but to the limits of corresponding non-group coverage. These are more restrictive. See Table 3–14.

[1] One prepayment plan imposed an upper age limit of 64 years in the case of initial applications from associations of physically handicapped persons.

[2] See Chapter 6, Table 6–3.

TABLE 3-9

INITIAL AND RENEWAL AGE LIMITS FOR GROUP CONTRACTS, BY CLASS OF CARRIER AND TYPE OF GROUP, 1961

Type of Group	Class of Carrier	Range of Maximum Age Limits Reported			
		Initial Membership		Renewal	
		Minimum	Maximum	Minimum	Maximum
Employer-Employee Groups	Stock Companies	65 yrs.	no limit	no limit	no limit
	Mutual Companies	70 yrs.	no limit	no limit	no limit
	Co-operatives	59 yrs.	no limit	no limit	no limit
	Prepayment Plans	64 yrs.	no limit	no limit	no limit
Union Groups	Stock Companies	65 yrs.	no limit	65 yrs.	no limit
	Mutual Companies	65 yrs.	no limit	no limit	no limit
	Co-operatives	59 yrs.	no limit	no limit	no limit
	Prepayment Plans	no limit	no limit	no limit	no limit
Professional or Trade Associations	Stock Companies	60 yrs.	no limit	65 yrs.	no limit
	Mutual Companies	60 yrs.	no limit	70 yrs.	no limit
	Co-operatives	59 yrs.	no limit	no limit	no limit
	Prepayment Plans	no limit	no limit	no limit	no limit
Agricultural Organizations	Stock Companies	65 yrs.	no limit	65 yrs.	no limit
	Mutual Companies	65 yrs.	no limit	64 yrs.	no limit
	Co-operatives	59 yrs.	no limit	no limit	no limit
	Prepayment Plans	no limit	no limit	no limit	no limit
Fraternal, Religious, or Ethnic Groups	Stock Companies	60 yrs.	no limit	65 yrs.	no limit
	Mutual Companies	65 yrs.	no limit	no limit	no limit
	Co-operatives	59 yrs.	no limit	no limit	no limit
	Prepayment Plans	no limit	no limit	no limit	no limit
Associations of Retired Persons	Stock Companies	65 yrs.	no limit	70 yrs.	no limit
	Mutual Companies	no limit	no limit	no limit	no limit
	Co-operatives	no limit	no limit	no limit	no limit
	Prepayment Plans	no limit	no limit	no limit	no limit
Associations of Physically Handicapped Persons	Stock Companies	65 yrs.	no limit	65 yrs.	no limit
	Mutual Companies	no limit	no limit	no limit	no limit
	Co-operatives	no limit	no limit	no limit	no limit
	Prepayment Plans	64 yrs.	64 yrs.	no limit	no limit
Municipal or Community Groups	Stock Companies	60 yrs.	no limit	65 yrs.	no limit
	Mutual Companies	no limit	no limit	no limit	no limit
	Co-operatives	59 yrs.	no limit	no limit	no limit
	Prepayment Plans	60 yrs.	no limit	no limit	no limit

Source: Survey of Voluntary Carriers.

Benefit Levels

However underwriting practices may develop in terms of risk selection, and however liberal procedures may be in the area of group size, minimum participation, conversion, and age requirements, the purpose of voluntary insurance or prepayment is still the protection of individuals and families from the unforeseen and unanticipated expense of needed medical care.[1] This raises the immediate question of how applicable benefits in fact compare with the cost of medical care that those benefits are intended to offset.[2]

Table 3–10 displays the maximum and minimum benefits for selected procedures as reported by respondents to the Royal Commission questionnaire. Each benefit shown is the maximum benefit, including an anaesthetist's and/or assistant's fee where applicable, under the terms of the contract in question.[3] In each case, the range of carrier replies, from the lowest to the highest, is indicated.

The procedures listed in Table 3–10 were not selected with any purpose in mind other than to show benefits for several common procedures and for one or two infrequent but costly procedures. This table, more than any other, illustrates the variability of group contracts written. For each procedure, the range of benefits, from the lowest to the highest, is of the order of 300 to 400 per cent – in some instances even more.

The choice among these benefit levels lies with the group. The widespread use of experience rating, to say nothing of the free choice of groups among competing carriers, would force actual premium costs to reflect these differences in benefit levels. The direct premium cost of low level benefits will be less than the corresponding cost of the more inclusive contracts. The anomaly is that with minimal benefit levels a contract becomes a "first dollar" cushion, absorbing an initial fraction of the cost of medical services rendered, leaving the individual himself to absorb whatever additional expense is involved. In many ways the philosophy underlying this coverage is the exact opposite of that of the more modern major medical contracts, which permit the individual insured to provide his own cushion for these first dollars of expense and absorb for him a high percentage of all additional expense incurred.[4] If group members are risk averse, and

[1] The prepayment plans and many cooperatives have argued that a major contribution of their services lies in extending the availability of medical care. In this light, prepayment is seen as a device encouraging individual families to make financial provision for medical costs and hence to ensure that services will be available when services are needed. Be this as it may, however, a prepayment contract is still insurance, even if benefits are provided in kind. See Chapter 5 below, especially pp. 69 to 95.

[2] An alternative over-all approach to this question is presented in Chapter 4.

[3] The service contracts of the prepayment plans do not pay benefits to subscribers except in the case of emergency care rendered to a subscriber by a non-participating physician. Organizations offering service contracts were asked to show, in lieu of benefits paid, the payments that would be made to participating physicians for the medical and surgical procedures listed. Not all prepayment plans offer service contracts. The Quebec Hospital Services Association, a prepayment plan member of Trans Canada Medical Plans, Inc. (1960), for example, offers only indemnity contracts.

[4] The benefit levels of major medical contracts are also frequently limited to fixed amounts for given procedures. A common qualification in these contracts cites "customary medical charges". Fees or charges in excess of what is considered customary are not covered by these contracts.

TABLE 3–10

REPORTED RANGE OF MAXIMUM BENEFITS PAYABLE, SELECTED PROCEDURES, BY CLASS OF CARRIER, GROUP CONTRACTS, 1961[a]

Procedure and Carrier	Benefit Level Most Widely in Force		Highest Benefit Level in Force		Lowest Benefit Level in Force	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
	(dollars)					
Caesarean Section						
Stock Companies	95	195	140	300	50	180
Mutual Companies	100	200	115	400	60	150
Co-operatives	100	185	135	185	100	185
Prepayment Plans	150	224	150	213	125	155
Dilatation and Curettage						
Stock Companies	25	60	25	75	13	50
Mutual Companies	25	50	35	90	15	45
Co-operatives	35	50	35	65	35	50
Prepayment Plans	25	50	37	65	35	50
Open Reduction of Fractured Femur						
Stock Companies	100	280	125	360	50	225
Mutual Companies	75	250	92	400	25	192
Co-operatives	150	230	150	280	150	230
Prepayment Plans	175	254	175	315	175	220
Tonsillectomy with Adenoidectomy						
Stock Companies	15	80	30	112	15	67
Mutual Companies	30	64	40	95	15	60
Co-operatives	45	70	50	90	35	70
Prepayment Plans	35	74	40	90	35	70
Total Hysterectomy						
Stock Companies	150	250	175	355	75	225
Mutual Companies	100	300	144	412	33	225
Co-operatives	150	250	165	268	150	250
Prepayment Plans	150	229	200	300	150	208
Repair of Single Inquinal Hernia						
Stock Companies	75	158	100	200	50	150
Mutual Companies	80	180	92	250	50	150
Co-operatives	104	129	104	149	80	129
Prepayment Plans	100	144	125	175	65	130
Appendectomy						
Stock Companies	100	150	100	220	50	150
Mutual Companies	100	200	100	275	50	150
Co-operatives	100	125	100	145	100	125
Prepayment Plans	100	144	125	159	125	130
Hemorrhoidectomy						
Stock Companies	40	100	60	155	25	95
Mutual Companies	38	90	50	165	17	80
Co-operatives	60	95	90	110	60	95
Prepayment Plans	75	119	72	112	50	90
Normal Confinement and Delivery without Complications (pre- and post-natal care incl.)						
Stock Companies	50	108	72	200	25	85
Mutual Companies	50	133	60	300	25	100
Co-operatives	85	107	85	148	85	107
Prepayment Plans	60	102	50	130	50	103

(a) Benefit includes anaesthetist and/or assistant's fee if applicable. Totals are rounded to the nearest dollar. The range shown is in each case from the lowest benefit reported by any carrier to the highest reported by any (not necessarily the same) carrier.

Source: Survey of Voluntary Carriers.

this is a basic premise of the insurance principle, then major medical, rather than the limited "first-dollar" contract, is better suited to the job.[1] The low or minimal benefit contract does make sense, of course, if it is supplemented by a major medical contract with a higher "deductible" than the usual "comprehensive" major medical contract. With existing information, it is not possible to determine the extent to which these low level benefits are in fact supplemented by additional coverage of this sort.[2]

Group Major Medical Contracts

Table 3–11 illustrates the range in the various deductibles, maximum benefits, and co-insurance factors, available in 1961 to the group buyer of major medical coverage.[3] The more common deductibles ranged between $25 and $100. Twenty per cent is the usual co-insurance factor. The higher deductibles are generally elected when other "first-dollar" coverage is in force. Maximum benefits appear for the most part to be at least $5,000 and can usually be reinstated after each illness or accident. This limitation is something of an actuarial vestige. The probability of medical and related expense exceeding $10,000 as a consequence of any given illness, or within any two-year period, is so close to zero as to make the expected cost of doubling or tripling this maximum negligible in any over-all sense.[4] It is surprising, in this light, that these limits have not been substantially raised. Opportunity for the reinstatement of the maximum limit may effectively accomplish this same result.

Major medical contracts are generally more inclusive than first-dollar contracts of either the indemnity or service variety. Drugs, appliances, various forms of paramedical therapy, as well as supplementary hospital and nursing benefits, are frequently if not usually included as benefits. This contract is now the most popular type of medical insurance (as distinct from prepayment) written,

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[1] This argument is made in more detail at the beginning of Chapter 5. See pp. 69 to 73.

[2] A number of these terms need clarification. "First-dollar" benefits are benefits that are paid starting with the first dollar of an eligible claim. Thus with first-dollar protection a group member submitting a claim would receive indemnification up to the amount of expense actually incurred or the applicable maximum benefit payable, whichever is less. With major medical coverage, however, indemnification would be paid only if realized expense exceeds some stated "deductible" amount. Thus the insured pays the "first dollars" himself, or is liable for such payment. He does not, therefore, have first-dollar coverage. He has instead a deductible which is his own personal liability. When first-dollar coverage is combined with major medical coverage, the impact of the former is to reduce the deductible in the case of claims involving services where first-dollar protection is in force. It is common, for instance, to find contracts providing first-dollar coverage in the case of certain surgical procedures supplemented by major medical protection against all other medical and some other related categories of expense.

[3] The co-insurance factor is defined as the percentage of expense, over and above the deductible, which is the personal liability of the insured. This liability is intended to serve as a deterrent to misuse or over-use of medical facilities. Although usually stated in terms of the insured's liability (e.g., 20 per cent), the carrier's liability (e.g., 80 per cent) is sometimes given. A safe rule is that the smaller proportion is the insured's share.

[4] Data presented in Chapter 5 imply that the probability of annual family medical expense exceeding $1,700 is of the order of one in 100,000. See Table 5–19. Major medical coverage typically includes benefits for more than physicians' services. Even so, the cost of removing the maximum would be expected to be very low.

TABLE 3–11

GROUP CARRIERS REPORTING MAJOR MEDICAL CONTRACTS, BY CLASS OF CARRIER AND RANGE OF REPORTED BENEFITS, 1961

Class of Carrier	Number of Carriers Reporting Major Medical Contracts		Range of Reported Benefits					
			Deductible		Maximum Benefit		Co-insurance Factor	
	Not Available	Available	Minimum	Most Common	Maximum	Most Common	Minimum	Most Common
			(dollars)				(per cent)	
Stock Companies	1	25	0–100	25–100	5,000–15,000	5,000–10,000	0–25	20–25
Mutual Companies	1	19	25–100	25–100	5,000–20,000	5,000–15,000	10–25	20–20
Co-operatives	3	7	50–100	50–100	5,000– 5,000	5,000– 5,000	20–20	20–20
Prepayment Plans	8	3	25–50	50–50	5,000–10,000	5,000– 5,000	20–20	20–20

Source: Survey of Voluntry Carriers.

and several prepayment plans have established special non-medical "major medical" insurance contracts to supplement their basic service contracts.[1] In view of the declining relative importance of physicians' services as a factor in the total cost of health services this development is not surprising.

NON-GROUP UNDERWRITING

Sixty-seven carriers reporting issued non-group insurance or prepayment contracts in 1961. Unlike group contracts, where a number of individuals and dependents receive insurance or prepayment protection under a single master policy, non-group contracts are written to enroll a single family unit.[2] Since individuals or families, rather than groups of individuals and families, are the units insured, adverse risk selection is more likely, and for this reason more proof of eligibility and more restrictions in the form of waiting periods and other exclusions are imposed by the carriers.[3] This, however, has not limited the general availability of a wide variety of non-group contracts. As in the case of corresponding group contracts, and as illustrated by Table 3–12, both comprehensive as well as very limited contracts appear to be available. In the extreme, contracts providing benefits for medical care but including no surgical benefits are sold. Although under some circumstances these contracts may provide desirable coverage for the sophisticated buyer, the typical individual is not apt to be expert and will frequently be ill-equipped to comprehend even the terms of the contract he ultimately buys, let alone the provisions of alternative contracts. This can be true even of the best-informed individuals. Health insurance contracts are not easily assessed. Some implications of this point are further developed in Chapter 7.

Medical Examinations and Health Statements

Table 3–13 contains estimates of the number of individuals and dependents covered by non-group contracts according to carrier action in requiring medical examinations or health statements from persons applying for new coverage. This table combines all coverage reported by each carrier. Thus, for example, if a company excludes pre-existing conditions with a few of its new policies, all coverage reported by that carrier is entered as coverage where pre-existing conditions are sometimes excluded, even though the company may issue other contracts under which there is never such an exclusion.

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[1] "Non-medical" is used here to refer to services other than those of physicians and surgeons.

[2] The term "contract" can be confusing. A group contract or policy provides protection for participating members of that group. Each group member is issued a certificate specifying the terms of the master contract applicable in his particular case. This certificate is nevertheless a contract in exactly the same sense as is a corresponding non-group contract. The essential difference lies not in the issuance of these contracts, but rather in the relationship between the carrier and the insured. In the case of group contracts, coverage for the group as a whole is negotiated at once. Payment for this coverage is usually collective. With non-group contracts, the individual deals directly with the carrier, both in establishing coverage and in providing payment for this coverage.

[3] Both in Canada and in the United States some carriers have begun to relax medical requirements and offer open enrollment, subject to waiting periods, during limited periods at infrequent intervals. In this way a large number of people are enrolled at one time, reducing the probability of adverse selection which would occur were these same contracts offered on a regular basis. The waiting period is, of course, a necessity with this procedure.

TABLE 3–12

NUMBER OF CARRIERS REPORTING NON-GROUP CONTRACTS, BY TYPE OF CONTRACT AND CLASS OF CARRIER, 1961

Type of Contract and Class of Carrier	Number of Carriers Reporting		
	This Contract Not Available	This Contract Available	
		Separately	Only with Other Coverage
Surgical Procedures Only			
Stock Companies	8	10	10
Mutual Companies	3	7	1
Co-operatives and Fraternals	4	7	5
Prepayment Plans	11	0	1
Total, All Carriers	26	24	17
Medical Care Only (no surgery)			
Stock Companies	19	4	5
Mutual Companies	9	1	1
Co-operatives and Fraternals	12	1	3
Prepayment Plans	11	0	1
Total, All Carriers	51	6	10
Surgical Procedures and In-hospital Medical Care			
Stock Companies	7	16	5
Mutual Companies	6	4	1
Co-operatives and Fraternals	10	4	2
Prepayment Plans	5	7	0
Total, All Carriers	28	31	8
Surgical Procedures and Medical Care In-hospital, Clinic, Home and Office			
Stock Companies	13	13	2
Mutual Companies	9	1	1
Co-operatives and Fraternals	12	2	2
Prepayment Plans	3	9	0
Total, All Carriers	37	25	5
Major Medical Expense — Comprehensive or Basic Type			
Stock Companies	20	7	1
Mutual Companies	5	5	1
Co-operatives and Fraternals	8	8	0
Prepayment Plans	12	0	0
Total, All Carriers	45	20	2
Major Medical Expense—Supplementary Type			
Stock Companies	22	4	2
Mutual Companies	9	2	0
Co-operatives and Fraternals	13	3	0
Prepayment Plans	11	0	1
Total, All Carriers	55	9	3

Source: Survey of Voluntary Carriers.

No carrier reported that a medical examination is always required for the issuance of new coverage. Twenty-eight of 58 carriers reporting indicated that a medical examination is required under certain circumstances. For 36, however, a health statement was mandatory. Fourteen others required a health statement in some instances.[1]

Thirty-one carriers always excluded pre-existing conditions from non-group coverage; 15 sometimes did so. Six covered pre-existing conditions after applicable waiting periods had been satisfied. Another 6 carriers, 4 prepayment plans and 2 stock companies, never excluded pre-existing conditions. Thirteen carriers, either always or sometimes, covered pre-existing conditions and required neither health statement nor medical examination for non-group enrollment.

Age Limits

Table 3–14 summarizes the range in maximum age limits imposed by the four classes of carrier for initial and renewal issue of each of three major categories of non-group coverage.[2] As of 1961, the prepayment plans were least restrictive. No age limit for renewal issue was reported by any prepayment carrier. Even with the other carriers, however, an upper age limit for renewal issue, was by no means always present. No carrier offering group conversion privileges, though this is not shown by Table 3–14, restricted these by an upper age limit. Thus the individual with either group or non-group coverage in force, appears to have at least a reasonable chance of maintaining that coverage despite advancing age. On the other hand, the cost of an unintended lapse in that coverage may be high. Upper age limits for initial issue of non-group coverage are very much in evidence in Table 3–14. No stock or mutual insurance company reporting offered comprehensive coverage to persons over age 70.[3]

As an over-all view of the impact of age restraints in this area this summary is, of course, unsatisfactory. As elsewhere, industry practice is so diversified as almost to defy classification. Contracts without age limits are available; others impose limits. A choice is available, but it may not always be made in the direction of the more permissive and therefore generally more expensive contracts.

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[1] The use of a health statement rather than a medical examination is not surprising. The latter is costly; the former is obtained without charge. Should a false statement be given, subsequent medical experience will frequently so indicate, and under those circumstances the contract can be held void. The cost of examining these few suspicious cases, though greater on a case-by-case basis, is likely to be far less *in toto* than the cost of providing a larger number of initial medical examinations.

[2] Minimum age limits for initial issue simply indicate the age below which an individual cannot hold independently a non-group contract. Normally these younger persons are expected to be covered as the dependents of some older relative.

[3] Since the return of the questionnaire on which Table 3–14 is based, at least one major insurance company has begun to make such coverage available.

TABLE 3–13

NUMBER OF CARRIERS ISSUING NON-GROUP CONTRACTS, BY REQUIREMENTS FOR INITIAL MEDICAL EXAMINATION OR HEALTH STATEMENT, AND EXCLUSION OF PRE-EXISTING CONDITIONS, AND CLASS OF CARRIER, 1961

Class of Carrier	Medical Examination Required			Health Statement Required			Pre-existing Conditions Excluded				Pre-existing Conditions Covered[a] and neither Health Statement nor Medical Examination Required	
	Never	Always	Sometimes	Never	Always	Sometimes	Always	Sometimes	Not After Waiting Period	Never	Always	Sometimes
	(number of carriers)											
Stock Companies	10	0	14	1	17	6	16	6	0	2	0	2
Mutual Companies	1	0	8	0	4	5	4	4	1	0	0	2
Co-operatives and Fraternals	13	0	3	2	13	1	9	4	3	0	1	1
Prepayment Plans	6	0	3	5	2	2	2	1	2	4	5	2
Total, All Carriers.	30	0	28	8	36	14	31	15	6	6	6	7

[a]After waiting periods if any.

Source: Survey of Voluntary Carriers.

TABLE 3–14

RANGE OF AGE LIMITS REPORTED FOR NON-GROUP CONTRACTS, INITIAL AND RENEWAL ISSUE, BY TYPE OF COVERAGE AND CLASS OF CARRIER, 1961

Class of Carrier	Medical Coverage						Surgical Coverage						Major Medical and Comprehensive					
	Initial Issue				Renewal		Initial Issue				Renewal		Initial Issue				Renewal	
	Range						Range						Range					
	Minimum Age		Maximum Age		Maximum Age		Minimum Age		Maximum Age		Maximum Age		Minimum Age		Maximum Age		Maximum Age	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
	(years)						(years)						(years)					
Stock Companies	¼	19	59	84	69	*	¼	19	59	84	65	*	¼	18	55	70	65	70
Mutual Companies ...	16	19	60	75	65	70	16	18	60	*	*	*	18	20	55	64	64	70
Co-operatives and Fraternals	0	18	50	65	50	*	0	18	50	*	*	*	0	18	60	*	*	*
Prepayment Plans ...	0	19	60	*	*	*	0	19	60	*	*	*	*	*	*	*	*	*

* no limit.

Source: Survey of Voluntary Carriers.

Eligibility of Dependents

The eligibility of dependents for coverage under non-group contracts is very similar to that noted earlier for group contracts. Table 3–15 compares with Table 3–7 in this regard. There is again a marked tendency for contracts to extend coverage to new-born infants only after some defined period of time. Table 3–16 contains a listing of applicable age limits for dependents eligible for non-group coverage, once again by class of carrier.

Cancellation and Failure to Renew

Few carriers reported any significant cancellation of non-group contracts because of unfavourable underwriting experience. Most, however, retained the right to cancel or fail to renew coverage. It is also true that very low rates of cancellation would be expected even if cancellation were employed as a device to limit claims in instances of extreme experience. The number of families with truly severe medical expense in any given year will be small relative to the total number of families involved.[1] Nevertheless, the information reported here suggests that outright cancellation is infrequent and that restriction of coverage in lieu of cancellation is more common.

Table 3–17 lists the responses of carriers to a question relating to this practice. Twenty-seven of 57 carriers with non-group contracts in force reported that with unfavourable underwriting experience a waiver of some benefits might be requested before renewal was offered. Two of the 27 always offered a waiver of benefits before cancelling or refusing to renew a contract; 23 generally did so. Two others reported that, although a waiver of benefits is sometimes requested prior to cancellation, this is not a general practice.[2] It is difficult, of course, to assess the volume of coverage affected. But it should be emphasized that a mandatory waiver of some benefit is tantamount to partial cancellation of coverage for the individual affected. Although some protection may remain in force, coverage of those medical costs which are most likely (or even certain) is removed. The very objective of coverage, protection against unforeseen expense, is hence eliminated as soon as that expense becomes evident. However clearly the carrier's right in this regard may be stated in the applicable contract, this action is not likely to be anticipated.

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[1] For example, Table 5–2 of this study suggests that a cancellation rate of 2, 1 per cent would have been sufficient to rule out all single persons 45–54, with total annual medical expense of more than $350. This, however, assumes that those high cost individuals could have been identified before and not after claims were submitted. This is not likely to be the case.

[2] The fact that these carriers do not always request waivers implies that in at least some instances outright cancellation or refusal to renew does occur. However, any real assessment of the extent of this practice is not possible with available data.

TABLE 3–15

NUMBER OF CARRIERS REPORTING ELIGIBILITY OF DEPENDENTS FOR NON-GROUP COVERAGE, BY RELATIONSHIP OF DEPENDENT AND CLASS OF NON-GROUP CARRIER, 1961

Class of Dependent	Stock Companies		Mutual Companies		Co-operatives and Fraternals		Prepayment Plans	
	Eligible	Ineligible	Eligible	Ineligible	Eligible	Ineligible	Eligible	Ineligible
	(number of carriers)							
Natural child at birth[a]	2	19	4	5	9	4	8	0
Natural children 14 to 90 days of age	18	–	5	–	3	–	0	–
Natural children after initial hospital discharge	1	–	0	–	1	–	0	–
Adopted children	21	0	9	0	13	0	8	0
Wards	16	5	6	3	10	3	3	5
Spouse	21	0	9	0	13	0	8	0
Spouse if divorced	3	18	3	6	2	11	5	3
Spouse if separated	9	12	3	6	4	9	5	3
Parents of policy-holder	2	19	0	9	2	11	1	7
Other specific classes	2	19	1	8	2	11	1	7

(a) Children eligible for coverage at birth are, of course, eligible for coverage at 14 days of age or after initial hospital discharge. This table shows, in rows two and three, the number of carriers reporting eligibility for coverage *only* after the indicated waiting period.

Source: Survey of Voluntary Carriers

TABLE 3–16

RANGE IN AGE LIMITS REPORTED FOR ELIGIBLE DEPENDENTS, NON-GROUP CONTRACTS, BY CLASS OF CARRIER, 1961[a]

Dependent	Age Limits Reported							
	Stock Companies		Mutual Companies		Co-operatives and Fraternals		Prepayment Plans	
	Low	High	Low	High	Low	High	Low	High
Minors: Minimum Age Limit								
Initial Issue	birth	3 months	birth	1 month	birth	1 month	birth	birth
Minors: Maximum Age Limit								
Initial Issue	17 years	23 years	17 years	24 years	18 years	19 years	18 years	19 years
Renewal Issue	17 years	23 years	18 years	25 years	18 years	21 years	19 years	19 years
Adults: Maximum Age Limit								
Initial Issue	55 years	84 years	55 years	no limit	55 years	no limit	59 years	65 years
Renewal Issue	55 years	no limit	64 years	no limit	no limit	no limit	no limit	no limit

(a) Based on replies from 20 stock companies, 8 mutual companies, 10 co-operatives and fraternals, and 7 prepayment plans.

Source: Survey of Voluntary Carriers.

The other form of restriction applicable in this situation is the special rating (i.e., a raising of the applicable premium) of a non-group contract with adverse experience. Replies submitted suggest that, though present, this alternative is less common than the more straightforward request for waiver of benefits.[1]

TABLE 3–17

NUMBER OF CARRIERS REPORTING WAIVER OF BENEFITS PRIOR TO CANCELLATION BECAUSE OF UNFAVOURABLE UNDERWRITING EXPERIENCE, NON-GROUP CONTRACTS, BY CLASS OF CARRIER, 1961

Class of Carrier	Waiver Requested before Cancellation			
	Never	Always	Generally	Infrequently
Stock Companies	7	2	13	2
Mutual Companies	6	0	4	0
Co-operatives and Fraternals	9	0	6	0
Prepayment Plans	8	0	0	0
Total, All Carriers	30	2	23	2

Source: Survey of Voluntary Carriers.

The only complete guarantee against cancellation of coverage or loss of benefits is the non-cancellable and guaranteed renewable contract. Premiums for such contracts are not guaranteed.[2] Table 3–18 indicates that 14 of 57 non-group carriers reporting offered this coverage in 1961. On the basis of the insured risk, these contracts should be somewhat more expensive than corresponding non-guaranteed renewable contracts. On the other hand, it is likely that long-term chronic illness accounts for a minor component of total medical expense and in actual practice cost factor may be minor.[3] The only true test of cost in this area is the experience of the carriers concerned. Except as reflected by premium structures, that experience is not public information. Table 3–18 indicates only the availability of this guaranteed renewable coverage as of 1961.

[1] Three of 57 carriers reported specially rated non-group contracts.

[2] This is considered a necessary feature of the guaranteed renewable contract. Underwriters feel that future medical utilization is more uncertain than, for example, mortality, the only other major area where guaranteed renewable contracts are available.

[3] Cost is used here to refer to the actual underwriting cost of this coverage. Premium structures are not always an accurate indicator of that cost. Even with the technical availability of such coverage, unduly high premium rates could effectively discourage its election.

TABLE 3-18

NUMBER OF CARRIERS REPORTING NON-CANCELLABLE, GUARANTEED RENEWABLE NON-GROUP CONTRACTS, BY CLASS OF CARRIER, 1961

Class of Carrier	Non-Cancellable Guaranteed Renewable Contracts	
	Available	Not Available
Stock Companies	5	19
Mutual Companies	4	6
Co-operatives and Fraternals	2	13
Prepayment Plans	3	5
Total, All Carriers	14	43

Source: Survey of Voluntary Carriers.

TABLE 3-19

REPORTED RANGE OF MAXIMUM BENEFITS PAYABLE, SELECTED PROCEDURES, BY CLASS OF CARRIER, NON-GROUP CONTRACTS, 1961[a]

Procedure and Carrier	Benefit Level Most Widely in Force		Highest Benefit Level in Force		Lowest Benefit Level in Force	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
	(dollars)					
Caesarean Section						
Stock Companies	50	150	75	150	35	150
Mutual Companies	75	150	75	180	30	150
Co-ops. & Fraternals	80	185	100	200	80	185
Prepayment Plans	150	185	150	190	150	185
Dilatation Curettage						
Stock Companies	23	55	25	171	12	50
Mutual Companies	20	43	25	72	15	40
Co-ops. & Fraternals	30	100	40	200	30	100
Prepayment Plans	25	50	25	65	25	50
Open Reduction of Fractured Femur						
Stock Companies	80	276	120	320	40	200
Mutual Companies	75	235	75	420	90	200
Co-ops. & Fraternals	35	250	35	300	35	250
Prepayment Plans	175	225	175	280	175	225
Tonsillectomy with Adenoidectomy						
Stock Companies	25	60	30	125	15	55
Mutual Companies	20	59	30	105	20	50
Co-ops. & Fraternals	35	70	46	75	20	70
Prepayment Plans	35	70	35	90	35	70
Total Hysterectomy						
Stock Companies	125	225	125	500	75	175
Mutual Companies	120	263	135	560	75	225
Co-ops. & Fraternals	80	250	100	300	80	250
Prepayment Plans	150	254	175	300	150	254

TABLE 3–19 (Concluded)

Procedure and Carrier	Benefit Level Most Widely in Force		Highest Benefit Level in Force		Lowest Benefit Level in Force	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
	(dollars)					
Repair of Single Inquinal Hernia						
Stock Companies	65	170	80	425	45	125
Mutual Companies	75	153	100	210	50	150
Co-ops. & Fraternals	80	129	100	200	50	129
Prepayment Plans	100	144	100	175	100	144
Appendectomy						
Stock Companies	100	150	100	325	50	125
Mutual Companies	75	210	100	280	75	150
Co-ops. & Fraternals	80	150	100	200	60	147
Prepayment Plans	100	144	100	150	100	144
Hemorrhoidectomy						
Stock Companies	38	115	40	125	25	60
Mutual Companies	20	81	50	175	20	50
Co-ops. & Fraternals	50	100	50	200	25	100
Prepayment Plans	75	99	75	110	75	99
Normal Confinement and Delivery without Complications						
Stock Companies	50	75	50	150	29	75
Mutual Companies	50	150	50	150	30	150
Co-ops. & Fraternals	25	108	25	108	25	108
Prepayment Plans	50	103	60	108	50	103

(a) Benefit includes anaesthetist and/or assistant's fee if applicable. Totals are rounded to the nearest dollar. The range shown is in each case from the lowest benefit reported by any carrier to the highest reported by any (not necessarily the same) carrier.

Source: Survey of Voluntary Carriers.

Benefit Levels

The variation in benefits provided by non-group contracts in 1961 significantly exceeded that of group contracts. Table 3–19 compares with Table 3–10 in this regard. It is not surprising that there is dispersion among the benefit levels of different contracts. It is somewhat striking, however, that in 1961 there were contracts in force in Canada providing a maximum payment for the open reduction of a fractured femur of $40, while another contract would pay indemnification of up to $300 for this same procedure. Even for those contracts reported as most widely in force, the applicable maximum indemnity for a Caesarian section ranged from $25 to $180. When "fringe contracts" are included, the low is $30 and the high $200. In this context, the essential question is one of how well equipped the individual buyer is to choose among alternative contracts where the interpretation of benefits and exclusions cited requires not only knowledge of applicable fee schedules (and likely deviations therefrom) but also technical knowledge relating to the probability of each of a host of possible claims. The data contained by Tables 3–10 and 3–19, with all their limitations, suggest that "coverage" is a term without standardized meaning in the medical insurance field in Canada today.

Non-Group Major Medical Contracts

Twenty-one of 58 non-group carriers reporting listed non-group major medical expense contracts as available in 1961. Table 3–20 provides additional detail by class of carrier. These non-group contracts were essentially similar to, but somewhat more restrictive than, their group counterparts. For the stock companies, for example, minimum deductibles ranged from $25 to $300, rather than from $25 to $100 as in the case of group contracts. Maximum benefits, which usually but not always could be re-established, were also lower, with a reported maximum of 10,000. In some instances a lower per-illness maximum was also imposed. Minimum co-insurance factors were generally higher for non-group than for group major medical contracts. The low and most commonly cited figure was 20 per cent, as opposed to the 10 per cent minimum common in group contracts.[1]

SUMMARY

The underwriting procedures outlined in this chapter serve two separate functions. Initially they define the risk to be covered by the particular contract under consideration. A surgical insurance contract, for example, is intended to serve a different need from a comprehensive medical prepayment contract. However, these underwriting restraints are also imposed to avoid, insofar as is feasible, a disproportionate representation of unfavourable risks within the category of insured persons.

With regard to contract design, the material here presented suggests a high degree of permissibility on the part of the carriers. Although narrowly defined and limited contracts are sold, broad coverage with few limits is also available. The range is greater for group contracts, but comprehensive or major medical protection is by no means restricted to those with group eligibility. There may be geographic differences – the more complete non-group packages appear to be more readily obtained by the residents of the more heavily populated areas of the country – but all in all, there is no indication that the carriers have failed to respond, even at the non-group level, to the current trend towards relatively complete prepayment and insurance packages. This point is also evident from the tabulations of coverage earlier presented in Chapter 2.

The more limiting underwriting restraints are those directed toward the avoidance of adverse risk selection.[2] This problem of risk selection arises because coverage *is* voluntary. As compared with the alternative of no coverage, any contract becomes a "better buy", the more adverse the expected medical experience of the potential buyer. Thus the individual of advanced age, or with a history of poor health, or with proclivities towards a higher than average utilization of medical services, has greater than average incentive to avail himself of the alternative of insurance or prepayment protection. In the absence

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[1] Major medical contracts are frequently assumed to be applicable to all charges over and beyond the deductible amount. This is not always the case. Most contracts limit coverage to customary charges or to specific fee schedule amounts.

[2] This implied division of function is not clear-cut. The existence of an upper age limit, for example, in part defines the risk covered by a particular contract, but also excludes from the insured population a group whose medical expenses can be expected to be higher than average.

TABLE 3–20

CARRIERS REPORTING NON-GROUP MAJOR MEDICAL CONTRACTS, BY CLASS OF CARRIER AND RANGE OF REPORTED BENEFITS, 1961

Class of Carrier	Number of Carriers Reporting Non-Group Major Medical Contracts		Range of Reported Benefits					
			Deductible		Maximum Benefit		Co-insurance Factor	
	Not Available	Available	Minimum	Most Common	Minimum	Most Common	Minimum	Most Common
			(dollars)				(per cent)	
Stock Companies	17	7	25–300	25–300	3,000–10,000	5,000–10,000	20–25	20–25
Mutual Companies	3	7	50–300	50–500	1,000–10,000	1,000– 7,500	20–25	20–25
Co-operative and Fraternals.....	9	7	100–500	100–500	5,000– 5,000	5,000– 5,000	20–20	20–20[a]
Prepayment Plans	8	0	--	--	- - -	- - -	--	--

(a) Does not include one small organization which reported a major medical plan with no co-insurance factor, a deductible of $10, and a maximum benefit of $500 per illness or $1,000 per year.

Source: Survey of Voluntary Carriers.

of restraints designed to prevent it, the proportion of the population electing voluntary coverage would be expected to display higher than average medical expense, raising the cost of that coverage and in turn discouraging the election of coverage by those whose experience is likely to be only average.

This problem is greater in the case of non-group contracts than for group contracts. For the most part, eligibility for group enrollment is defined independently of an individual's health experience or outlook, and participation requirements readily prevent extreme selection from the population with group eligibility. It is not surprising, therefore, that group contracts are characterized by fewer underwriting limitations. But even in the non-group field these limitations appear no longer to define a significant set of "uninsurables". Waiting periods have been substituted for outright exclusions; non-cancellable contracts are available; a number of carriers offer initial enrollment without upper age limit and without exclusion for pre-existing conditions. The problem that is apt to confront the buyer is not one of lack of eligibility for a wide range of benefits, but rather of choice among a wide variety of contracts, each with its own price tag, each with its own benefits, and each, probably, with its own and different degree of partial or absolute exclusions. This choice is not apt to be easily or accurately made. The range in premium cost can be wide; the range in benefits difficult to assess. This point, and its implications, are further developed in Chapter 7. The present chapter attempts only to summarize available information regarding current underwriting practice, to illustrate the highly varied procedures in this field, and, finally, to provide the background for the analysis of medical expense and the cost of medical insurance and prepayment that follows in later chapters.

CHAPTER 4

PREMIUMS, CLAIMS, AND COSTS

The first section of this chapter reports the claims paid (benefits provided) and gross premium (or subscription) income received by 97 insurance and prepayment carriers in the surgical and/or medical field in 1961. Interpretation of these data is difficult. Accounting conventions are varied and only limited detail is available. Nevertheless, these data are sufficient to illustrate the "insurance cost" of several categories of group and non-group contracts, and furthermore, differences apparent among several types of contract are large enough to dwarf any error introduced by these shortcomings of the basic data. The data are not without implications regarding the cost of medical insurance and prepayment.

A second section relates the claims paid by these carriers to the number of persons covered as reported both here and in Chapter 2. This comparison is an independent attempt to measure the degree of protection implicit in the coverage reported in Chapter 2. Although the actual total medical expense incurred by persons with insurance or prepayment protection cannot be specified with complete precision, enough is known to permit reasonable assumptions in this regard, and comparison of those assumed levels of total medical expense with actual claims paid. This amounts to estimation of the percentage of the actual total expense that is paid by commercial and non-profit carriers on behalf of their contract holders.[1]

PREMIUMS AND COSTS

Table 4–1 shows total gross premiums received and total claims incurred for five classes of health insurance contract, by group and non-group contracts separately, for each of four classes of carrier in 1961.[2] This table is based on questionnaires returned by 95 carriers, and independent material submitted by Medical Services, Incorporated, and Group Medical Services.[3]

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[1] The relevance of this percentage has not been overlooked. See, for example, Canadian Health Insurance Association, submission to the Royal Commission on Health Services, (April 17, 1962), Appendix IV.

[2] Premiums include subscriptions to prepayment plans. Claims include payments to physicians for services rendered under service contracts.

[3] Premiums and Claims for M.S.I. and G.M.S. are for the year 1960. For a list of the organizations for whom data are included, see Appendix I.

TABLE 4–1

GROSS PREMIUMS RECEIVED, TOTAL CLAIMS INCURRED, AND GROSS LOSS RATIOS: GROUP AND NON-GROUP CONTRACTS, BY CLASS OF CARRIER AND TYPE OF COVERAGE, 1961

Class of Carrier	Sickness and Accident	Hospital Expense	Surgical Expense	Medical Expense	Comprehensive and Major Medical	No Breakdown Available[a]	All Surgical and Medical	All Coverages Written
Group Contracts								
Stock Companies								
Gross Premiums ..... $	24,466,838	6,294,064	13,586,945	7,688,153	16,347,044	948,985	37,622,142	69,332,029
Total Claims ..... $	16,451,625	3,477,433	10,429,766	5,711,013	10,539,413	521,898	26,680,192	47,131,148
Loss Ratio ..... %	67.2	55.2	76.8	74.3	64.5	55.0	70.9	68.0
Mutual Companies								
Gross Premiums ..... $	17,516,274	4,311,488	8,476,395	2,843,843	8,389,202	21,431,893	19,709,440	62,969,095
Total Claims ..... $	14,025,846	3,287,073	6,079,321	2,245,490	6,325,450	13,449,714	14,650,261	45,412,894
Loss Ratio ..... %	80.1	76.2	71.7	79.0	75.4	62.8	74.3	72.1
Co-operatives								
Gross Premiums ..... $	—	—	188,691	9,530	69,988	—	268,209	268,209
Total Claims ..... $	—	—	148,875	6,293	50,239	—	205,407	205,407
Loss Ratio ..... %	—	—	78.9	66.0	71.8	—	76.6	76.6
Prepayment Plans								
Gross Premiums ..... $	—	7,168,840	7,563,752	11,322,364	83,119,483	—	102,005,599	109,174,439
Total Claims ..... $	—	5,178,515	6,031,672	7,931,528	72,976,755	—	86,939,955	92,118,470
Loss Ratio ..... %	—	72.2	79.7	70.1	87.8	—	85.2	84.4
All Carriers								
Gross Premiums ..... $	41,983,112	17,774,392	29,815,783	21,863,890	107,925,717	22,380,878	159,605,390	241,743,772
Total Claims ..... $	30,477,471	11,943,021	22,689,634	15,894,324	89,891,857	13,971,612	128,475,815	184,867,919
Loss Ratio ..... %	72.6	67.2	76.1	72.7	83.3	62.4	80.5	76.5

Non-group Contracts								
Stock Companies								
Gross Premiums..... $	10,901,562	1,415,084	2,101,177	1,198,565	1,117,091	835,973	4,416,833	17,569,452
Total Claims ..... $	4,814,457	727,505	716,525	488,747	323,473	392,507	1,528,745	7,463,214
Loss Ratio..... %	44.2	52.1	34.1	40.8	29.0	47.0	34.6	42.5
Mutual Companies								
Gross Premiums ..... $	7,318,206	764,327	2,021,784	1,049,272	2,292,449	—	5,363,505	13,446,038
Total Claims ..... $	3,285,589	576,808	1,274,219	354,764	829,987	—	2,458,970	6,321,367
Loss Ratio..... %	44.9	75.5	63.0	33.8	36.2	—	45.8	47.0
Co-operatives and Fraternals								
Gross Premiums ..... $	561,981	80,698	379,538	17,244	225,180	7,286	621,962	1,271,927
Total Claims ..... $	284,840	43,486	285,652	15,195	193,230	4,861	494,077	827,264
Loss Ratio..... %	50.7	53.9	75.3	88.1	85.8	66.7	79.4	65.0
Prepayment Plans								
Gross Premiums ..... $	—	59,652	—	510,496	15,593,814	—	16,104,310	16,163,962
Total Claims ..... $	—	44,739	—	416,592	14,043,895	—	14,460,487	14,505,226
Loss Ratio..... %	—	75.0	—	81.6	90.1	—	89.8	89.7
All Carriers								
Gross Premiums ..... $	18,781,749	2,319,761	4,502,499	2,775,577	19,228,534	843,259	26,506,610	48,451,379
Total Claims ..... $	8,384,886	1,392,538	2,276,396	1,275,298	15,390,585	397,368	18,942,279	29,117,071
Loss Ratio..... %	44.6	60.0	50.6	45.9	80.0	47.1	71.5	60.1

(a) Includes surgical and medical coverage unspecified as to type.
Source: Survey of Voluntary Carriers.

Elsewhere this study has been confined to medical and surgical contracts, including major medical and comprehensive contracts. In Table 4–1, however, detail is shown both for sickness and accident (loss of income or "weekly indemnity") insurance and for contracts providing benefits to supplement the provincial hospitalization plans. This added information, made available at the request of the Royal Commission on Health Services, is presented here to give a broader picture of the total range of "health" benefits provided by the voluntary carriers.[1] Despite this digression, this chapter, like the rest of this study, places primary emphasis on the medical and surgical components of contracts available from the insurance and prepayment carriers.

Each cell of Table 4–1 also contains the gross loss ratio – the ratio of total claims incurred to gross premiums received. If no premium refunds were made, and if there were no future claims to be paid without further premium income, these loss ratios would measure the non-claims costs of the corresponding medical insurance or prepayment coverage. A gross loss ratio of 0.5 implies, for example, that claims account for one-half of premiums received. Provided that no subsequent refund of premiums was made, that no premium income received extended coverage against which future claims could be levied, and that no claims included reflected liability accepted in consideration of other premium income, the remaining half of premium income would be allocable either to costs other than claims costs borne by the carrier, or to net underwriting profit, or to a combination of the two. From the viewpoint of the insured group or individual, this 50 per cent of premiums (or 100 per cent of claims) is the cost of risk avoidance – the price that is paid for the service rendered by the carrier in spreading the risk of expense due to adverse medical experience among the insured individuals.[2]

The crude gross loss ratios of Table 4–1 are an imperfect measure of that cost. In the case of group coverage, experience-rating refunds are made and are

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[1] Fifteen additional carriers whose questionnaires were not tabulated because no surgical or medical contracts were written or in force, did provide information regarding sickness and accident contracts written. These fifteen carriers were: The Western Assurance Company, The Milwaukee Insurance Company, The Prudential Assurance Company, The Credit Life Insurance Company, The Equitable Life Insurance Company of Canada, (all stock companies); The Quebec Mutual Life Assurance Company, Assurances V.C.C. Compagnie Mutuelle (both mutual companies); the Canadian Order of Foresters, The Lutheran Brotherhood, the Brotherhood of Railway Trainmen, The Canadian Woodmen of the World, The Canadian Slovak Benefit Society, The Associated Canadian Travellers, La Société L'Assomption, The Slovene National Benefit Society (all fraternal or co-operative organizations). As a whole, these fifteen organizations in 1961 received gross premiums and incurred claims for non-group contracts of $205,713 and $117,860, respectively, and for group contracts of $518,702 and $294,641. These totals are *not* included in Table 4–1. The questionnaire was not intended for the collection of these data. See Appendix I.

[2] The ratio of these "retained" premiums to claims paid is termed the "retention ratio" by Volume I of the Report of the Royal Commission on Health Services. (See Royal Commission on Health Services, Vol. 1, Ottawa: Queen's Printer, 1964,p. 732). Note that a loss ratio of 50 per cent implies a "retention ratio" of 100 per cent.

not minor.[1] In addition, to the extent that non-group contracts are written for periods of more than one year, reserve accumulations, if reserve requirements could be accurately determined, should also be deducted.[2] Similarly, if an unrepresentative population is covered during the year in question, loss ratios can be misleading as a measure of longer-run experience.[3]

Most health insurance contracts are short-term contracts. Group contracts are re-rated from one year to the next. Those non-group contracts written for periods of more than one year, few as they may be, are also subject to re-rating. Loss ratios are provided in Table 4–1 only for large numbers of carriers and for very large numbers of persons covered. There is no reason to believe that 1961 was a startlingly unrepresentative year. With correction for experience-rating refunds, and other premiums returned, the loss ratios of Table 4–1 should provide a reasonable indication of the non-claims cost of these classes of coverage.[4]

Table 4–2 contains available information regarding the relative magnitude of premiums returned, dividends, and increases in unearned reserves for all forms of group "health" contracts.[5] Although corresponding information is not available for non-group contracts, the degree of correction for non-group contracts would, here, be substantially less. With non-group contracts, there is no experience rating. This is the major factor contributing to the return of premiums in the group field.

For all classes of group coverage issued by stock companies, premiums returned, dividends credited to policy owners, and increases in unearned reserves and advance premium accounts represented roughly 7.3 per cent of gross premium income in 1961. Corresponding figures for mutual companies, cooperatives, and

[1] Table 4–2 provides an indication of the relative importance of all premium refunds, including experience-rating rebates, for a broad class of "health" contracts.

[2] Although individuals may continue protection for extended periods of time the vast bulk of medical and surgical contracts are written for periods of one year or less, renewable at the option of the carrier. In principle, therefore, aggregate reserve accumulations from one year to the next should be of a second order of importance. In practice, carriers do allocate underwriting surplus to reserve accounts. Given the shorter-term character of the formal carrier liability, this kind of reserve transfer must still be considered a non-claims cost to current contract holders and not an indirect measure of future claims to be paid. If, in the future, claims are paid from these reserves, this simply represents a shifting of cost from one class of contracts (future contracts) to another (present contracts).

[3] The likelihood of this situation diminishes rapidly as the size of the covered group increases. Table 4–1 reports experience for almost half the population of Canada. While loss ratios for any given carrier might be influenced by the particular group covered in that year, Table 4–1 can scarcely be considered subject to large elements of sampling error. Admittedly the 50 per cent of the population covered includes disproportionate representation of low-risk persons. On the other hand, it is very unlikely that the composition of the ten million persons covered would change so markedly from one year to the next as to significantly affect the average experience reported.

[4] Other premiums returned would chiefly be in the form of dividends paid by mutual companies.

[5] This includes sickness and accident and group hospitalization insurance as well as the other categories of surgical and medical contract listed by Table 4–1. Table 4–2 also shows increases in policy reserves and provisions for future dividends and experience refunds. These items have not been excluded from premiums received in estimating the non-claims cost of health contracts. The primary reason for this is that these reserves may be maintained and not paid out, or if paid in the future are apt, given turnover in the insured population, to be credited in large part to individuals who did not contribute to the establishment of these reserve funds.

prepayment plans are 4.5 per cent, 6.1 per cent, and 0.6 per cent respectively. If this experience is equally characteristic of surgical/medical coverage and the other forms of "health" contract sold, the gross loss ratios of Table 4–1 are about 6 per cent too low as estimates of the non-claims cost of group coverage. The degree of correction for non-group contracts would be substantially less.

TABLE 4–2

PREMIUM DETAIL, GROUP BUSINESS ONLY, BY TYPE OF CARRIER, 1961

Premium Detail		Amount
		(dollars)
Total Premiums Received[a]	Stock Companies	68,466,736
	Mutual Companies	49,036,905
	Co-operatives	273,242
	Prepayment Plans	99,536,997
Less: Premiums Returned	Stock Companies	5,477,530
	Mutual Companies	831,812
	Co-operatives	–
	Prepayment Plans	168,241
Dividends credited to policy-owners	Stock Companies	108,175
	Mutual Companies	2,766,189
	Co-operatives	3,664
	Prepayment Plans	–
Increase in unearned reserves and advance premium accounts	Stock Companies	(447,360)
	Mutual Companies	(390,583)
	Co-operatives	3,497
	Prepayment Plans	2,027,910
Increase in policy reserves	Stock Companies	540,749
	Mutual Companies	(233,332)
	Co-operatives	(1,040)
	Prepayment Plans	–
Increase in provisions for future dividends or experience refunds	Stock Companies	2,165,648
	Mutual Companies	578,527
	Co-operatives	–
	Prepayment Plans	1,663,050
Earned Premiums from Group Business	Stock Companies	60,621,994
	Mutual Companies	45,484,292
	Co-operatives	267,121
	Prepayment Plans	95,677,796

(a) Includes premiums from hospital expense and loss of income insurance. Total medical or surgical coverage accounts for 62 per cent of gross premiums shown.

Source: Survey of Voluntary Carriers.

Loss Ratios for Non-Group Insurance

In this light the outstanding feature of Table 4–1 is the low level of the loss ratios reported by the insurance carriers for non-group coverage. In 1961, for all non-group medical and surgical coverage issued by stock and mutual insurance companies, the ratio of total claims incurred to gross premiums received was 40.8 per cent. Roughly $5,793,051 of premiums were received in 1961 over and above

the amount required to meet the $3,979,436 of claims incurred in that year. This amount, $5,793,051, was available to the carriers to meet administrative and sales expense, to pay applicable taxes, to provide unearned reserves against future liability in the case of contracts written for more than one year, and to generate profits and earned reserves from this branch of the insurance business. With the exception of additions to unearned reserves – and significant additions would not be expected given the option of re-rating premiums and the limited volume of long-term contracts written – the breakdown of this amount between costs (whether in the form of reserves or otherwise) and profits is of no significance to the insured.[1] Whether paid to a sales staff in the form of commissions or to stockholders in the form of dividends, or added to the reserve of a mutual company, this represents cost to the insured. These costs, for non-group coverage, are at least double those of corresponding group coverage. A meaningful allocation of this margin between carrier costs and carrier profits is impossible, but given the active competition among carriers, it is likely that real profits are not markedly, if at all, higher here than in the group field, and that the very low loss ratios for non-group contracts may be explained largely on the basis of higher costs of selling and administering non-group as opposed to group contracts.[2] Non-group insurance coverage is an expensive alternative to group coverage.

Loss Ratios for Non-Group Prepayment

Non-group prepayment, as opposed to insurance, is another matter. Loss ratios for non-group prepayment contracts, on the average, are fully as high as, and in fact higher than, loss ratios for corresponding group prepayment coverage. It is probable that higher loss ratios for non-group prepayment, in comparison with non-group insurance, arise primarily because the prepayment plans handle non-group business in much the same way as their group business.[3] Sales commissions are not paid; on the claims side, administrative procedure is essentially identical. Claims are not paid to individuals; doctors render service

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[1] This relationship would, on the other hand, be very relevant to an analysis of industrial behaviour in this area. Unfortunately, accurate determination of the line of demarcation between costs and profits is not possible. Most major carriers, except the prepayment plans, sell other lines of insurance in addition to these health contracts and in most instances, health insurance is a relatively minor part of the total. Any attempt to define the cost of the health insurance component therefore involves an allocation of overhead corporate expense between health insurance and the other forms of insurance offered. No way exists of accurately defining that portion of rent properly allocable to the health insurance costs when the rented building houses both health and life insurance personnel. Similar problems confront the allocation of other components of overhead expense. Accountants have, of course, developed rules to allocate these inallocables, but these are only rules. The resultant allocation of costs is too flimsy a basis to permit analysis of actual profit rates in this industry.

[2] See, for example, Canadian Health Insurance Association, submission to the Royal Commission on Health Services, April 17, 1962, Appendix III–4. "Commissions" and "Other Expenses" for 21 leading insurance companies are shown to be 46.6 per cent of total premiums for those companies that sell "chiefly individual" contracts and 13.1 per cent that sell "chiefly group" contracts.

[3] The cooperatives also report loss ratios for non-group contracts that compare favourably with those for corresponding group contracts. Again the explanation probably lies in similar administrative procedures for both classes of coverage. This is not true of the commercial insurance carriers who have "pushed", through sales and promotional work, non-group coverage a good deal harder than their cooperative and prepayment counterparts.

to non-group members in exactly the same way as to group members. Only billing procedure differs. Groups generally make collective payment of subscriptions on behalf of group members and thereby provide some clerical saving for the prepayment organization.

Of course, there is still the additional question of whether, for the prepayment plans (and cooperatives), group rates subsidize non-group members. This would occur if group and non-group rates were set to equalize loss ratios between the two classes of subscriber, and this may well be the case. Even so, the costs of prepayment have been held, in both the group and non-group fields, to impressively low levels when judged against the experience of the stock and mutual insurance companies.

A low loss ratio does not, however, necessarily imply "poor" insurance. Neither does a high loss ratio always signify "good" insurance. The function of insurance is the alleviation or elimination of risk. In some instances, the administrative expense of spreading risk to achieve this objective may be very high. Under such circumstances, and even with the utmost economy, loss ratios will tend to be low. This does not mean the insurance is poor or a "bad buy". It simply indicates that the cost of risk avoidance is high. The value of that risk avoidance may far exceed its cost, and a low loss ratio may be fully consistent with highly valuable and useful insurance. Only if contracts, services, eligibility, enrollment, and circumstance are identical, can the inference accurately be made that the lower the loss ratio the better the buy.

TABLE 4–3

PERSONS COVERED AND CLAIMS PAID, ALL CARRIERS REPORTING DATA PERMITTING EXCLUSION OF SICKNESS AND ACCIDENT AND HOSPITAL EXPENSE INSURANCE FROM BOTH COVERAGE AND CLAIMS, 1961[a]

Organization	Persons Covered	Claims Paid	Claims Paid per Person Covered
		$	$
Stock Companies			
Group	1,630,687	23,628,953	14.49
Non-Group	248,515	1,252,025	5.04
Mutual Companies			
Group	1,716,269	26,241,441	15.29
Non-Group	214,466	2,295,862	10.71
Co-operatives and Fraternals			
Group	34,001	196,193	5.77
Non-Group	78,454	492,496	6.28
Prepayment Plans			
Group	3,914,331	84,178,955	21.51
Non-Group	659,134	14,460,487	21.94
All Carriers			
Group	7,295,288	134,245,542	18.40
Non-Group	1,200,564	18,500,870	15.41
Total	8,495,852	152,746,412	17.98

(a) Based on replies from 57 group carriers (21 stock companies, 18 mutual companies, 4 co-operatives and fraternals, and 14 prepayment plans) and 49 non-group carriers (17 stock companies, 9 mutual companies, 13 co-operatives and fraternals, and 10 prepayment plans).

Source: Survey of Voluntary Carriers.

The low loss ratios observed in the individual health insurance field can quite validly be defended on the grounds that this coverage is voluntarily accepted by individuals confronted with choice – individuals who are happy or at least willing to pay the price for this protection, and that expensive though this coverage may be, it is nevertheless considered by its buyers to be preferable to other forms of coverage available, or to the alternative of no coverage at all.[1] That argument, however, presumes a knowledgeable buyer aware of alternatives and one to whom corresponding group coverage is not available.[2] With group coverage, or with coverage devoid of sales effort and related costs, the non-claims (including profits) expense of all carriers taken together appears to be more like 15 per cent of premium income and not the 50 to 60 per cent characteristic of the bulk of non-group health insurance in 1961.[3]

CLAIMS PER CAPITA

Table 4–3 shows the total claims paid and total number of persons covered for all carriers submitting both claims and coverage information separately for surgical-medical contracts.[4]

For all carriers combined, there was very little difference between group and non-group contracts in terms of average claims paid per person covered in 1961.[5] However, there were major differences among the four classes of carrier and between group and non-group contracts for given classes of carrier. As

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[1] There is of course an alternative that these consumers cannot individually accept or reject: universal coverage by a common or provincial group plan. This preference can be registered only politically, not by individual choice in the market-place. The action of individuals in the latter sphere provides little indication of their preference in the former. The utilization or lack of utilization of voluntary private institutions is no true indicator of the preferences of the society with regard to the substitution of public for private action. The preference of an individual for no coverage as opposed to coverage under an existing voluntary plan does not imply that no coverage would be considered preferable by that individual to the alternative of coverage under a universal group contract when the latter does not exist. Neither, of course, does the reverse follow. It is unfortunate, but nevertheless true, that collective preferences are only imperfectly reflected by the decisions of political institutions.

[2] This point receives further attention in Chapter 7.

[3] Table 4–1 shows a gross loss ratio for all group surgical and medical coverage of 80.5. On the assumption that roughly 5 per cent of gross premiums were credited to policy owners and/or to unearned reserve on advance premium accounts, the net loss ratio for this group business would have been about 85 per cent. In contrast, the gross loss ratio shown in Table 4–1 for non-group surgical and medical coverage issued by the stock insurance companies is 34.6 and by the mutuals 45.8. For the two combined, the loss ratio would be 40.8. Even allowing that 5 per cent of gross premiums would be returned as dividends or credited to unearned reserve or advance premium accounts, which is very unlikely, a net loss ratio of only 43 per cent, or 57 per cent of gross premiums devoted to the non-claims costs of this insurance, would still be implied.

[4] A number of carriers reported coverage or claims only for all "health" contracts combined. In these instances, if accident and/or hospitalization insurance was offered, the claims and coverage reported were not included in Table 4–3. The detail of Table 4–3 differs from that of Tables 2–1 and 4–1 for this reason.

[5] Carriers were asked to report coverage as of December 31, 1961. To the extent that coverage increased during 1961, the percentages of column three understate the annual per capita claims of persons covered. Available evidence suggests that 1961 was not a year of dramatic growth in voluntary coverage. Probably there was less than a 5 per cent increase in coverage during the year. On this basis and assuming that this growth was evenly distributed over the 12-month period, the percentages of column three might be considered to be low by perhaps 2.5 per cent.

would be expected, the level of claims reported per person covered by prepayment contracts was significantly above that of the other carriers. The prepayment plans stress comprehensive contracts without deductibles of any sort. Only to a very limited extent, and then chiefly for benefits other than physicians' services, have the prepayment plans engaged in the sale of major medical contracts.

In contrast, the commercial carriers have emphasized the "saving" that a deductible, payable by the insured, can accomplish in the premium cost of medical and surgical coverage. This saving, which is indisputable, of course results in lower claims per contract. Part of the differential between the insurance carriers and the prepayment plans in Table 4–3 reflects this factor.

This is not the entire explanation. The major medical component of insurance contracts outstanding in 1961 was heaviest in the group field. The level of claims per person reported by stock insurance companies for non-group contracts was only 30 per cent of the corresponding level for group contracts, implying substantially lower levels of actual insurance protection. In the case of the mutual insurance companies, claims of roughly $11 per capita were reported for non-group contracts, about double the $5 figure reported by the stock companies, but still substantially less than the $15 per person paid in claims by the mutual insurance companies under group surgical-medical contracts.

Information is available from the cooperatives and fraternal organizations for only a relatively small number of covered individuals. Nevertheless, the level of claims paid per person of roughly $6 a year for both group and non-group contracts also suggests relatively limited coverage.

These statistics can easily be misinterpreted. At first glance, a level of claims per person of only $5 or $10 a year appears to be very low. On the other hand, Chapter 6 of this study estimates the total in-hospital surgical and medical expense of Canadians with full prepayment protection at about $12 per person. The corresponding cost of all surgical and maternity services, including routine infant care, is less than $10 per capita. Furthermore, medical and surgical expenses are not evenly distributed among the population. An average claims level of $10 per person does not imply that all persons covered received reimbursement of medical expenses of $10 or of some amount close to $10. Many policyholders would have submitted no claims; a few would have incurred expenses leading to high-level claims.[1] Relatively low levels of average claims per person could be fully consistent with contracts providing substantial protection against the risk of large medical expense. This, however, need not be the case, and because of the unequal distribution of medical expense, and also because of the highly varied content of different contracts lumped together in

[1] The distribution of medical and surgical expense among families is considered in Chapter 5. Actual distributions of various categories of expense are presented for standardized types of family in Tables 5–2 through 5–9.

Table 4–3, it would be hazardous, if not impossible, to draw conclusions from this table regarding the relative degree of risk alleviation implicit in the various insurance contracts as opposed to prepayment considered. Nevertheless the presence of a deductible combined with a low co-insurance factor *could* produce very low levels of average claims without greatly reducing the degree of risk avoidance implicit in the election of such coverage, and for persons with high medical expense, the record of the insurance carriers might well compare more favourably with the prepayment plans than the single over-all comparison of Table 4–3 suggests.

MEDICAL EXPENSE PER CAPITA

Interpreted in quite another way, these claims per capita represent a fraction, ranging to a maximum of one, of the total medical expense incurred by these contract holders. In this sense, the claims figures can provide an indication of the contribution of these contracts toward the total cost of medical care rather than towards alleviation of the risk of large medical expense. This comparison requires estimation of the total medical expense per person with coverage.

In 1961, total gross payments for private physicians' services in Canada totalled $383.2 million.[1] This corresponds to a per capita expenditure of $21.01 for the combined insured and uninsured sectors of the Canadian population. There is substantial evidence of significantly higher utilization of medical services by persons with comprehensive prepayment protection in comparison with this national average. Similarly, persons who live in urban rather than rural locations also show higher than average medical expenditures.[2] Persons with health insurance or prepayment protection tend to be an urban rather than a rural group, so that higher than average medical expenditures for this category can therefore be expected for both reasons.

Offsetting this, that part of population with coverage in 1961 contained a disproportionately higher representation of persons of working age in comparison with the population generally, and relatively fewer of the chronically ill and high-expense upper age groups. This factor would tend to provide a downward bias, but it nevertheless seems reasonable to consider $21.00 as a minimal estimate of the realized total per capita expense of persons with medical and/or surgical insurance or prepayment protection in force in Canada in 1961.

At the other extreme, the utilization of medical services by the subscriber population of Manitoba Medical Service implies for Canada an average total

[1] Royal Commission on Health Services, Vol. I, Table 19–1. This total excludes payments to salaried physicians employed in business, government, education, research, and administration. It includes payments to all physicians in private practice in Canada in 1961.

[2] For an analysis of the effects of age, sex and location as factors influencing the utilization of physicians' services, see Chapter 6.

expense of roughly $31.50.[1] This estimate is based on the assumption that all persons in the Canadian population utilize medical services to the same degree as corresponding families in the subscriber population of Manitoba Medical Service. If the family structure of that portion of the Canadian population with medical insurance or prepayment protection exactly matched that of the entire Canadian population, and if persons with any form of coverage utilized available medical facilities to the same degree as did families with full prepayment coverage from Manitoba Medical Service, this estimate of $31.50 would accurately reflect the total per capita medical bill of the ten million persons with coverage in Canada in 1961.

Table 4–4 contains a comparison of claims paid per capita, not with these bracketing estimates of $21.01 and $31.50, but with point estimates for each of the four carrier classes. These point estimates are a first approximation based on the most limited data. It is clear that $31.50 is too high an estimate of annual expenses for physicians' services even for those Canadians with prepayment protection. Not all prepayment contracts in force in 1961 matched the coverage of the comprehensive Manitoba plan. Many were limited to physicians' services in hospital.[2] Persons covered by medical prepayment in 1961 were drawn disproportionately from those age and family groups tending to incur lower than average total medical expenses.[3] Table 4–4 estimates the average expenditure for physicians' services on the part of those Canadians with *prepayment* coverage at $27.00 *per capita*.

Similarly, while it is reasonable to suppose that persons with insurance coverage will incur higher average expenses than those corresponding families without coverage, Table 4–3 rather clearly suggests a lesser degree of protection is acquired, on the average, by those with medical insurance as opposed to medical prepayment. If the effect of coverage on utilization is related to the degree of protection against medical costs, then $27.00 should be high for the average family with medical insurance. Table 4–4 suggests an estimate of $23.50 for the realized per capita total expense for physicians' services by those with medical *insurance* contracts, regardless of the carrier in question.[4]

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[1] See Table 6–5. There are additional assumptions underlying the processing of the Manitoba data. In particular, this estimate of $31.50 makes no correction for urban or rural residence or for duration of prepayment coverage. The use of this estimate as a measure of the realized medical costs of the insured population generally, therefore assumes that the urbanity of the covered Canadian population matches that of the Manitoba Medical Service subscriber population and that in the experience of these two "covered" groups this protection is equal. Additional estimates which do correct for these factors are available in Chapter 6.

[2] See Table 2–1. About 35 per cent of those Canadians with prepayment coverage in 1961 held in-hospital contracts.

[3] See Table 5–1. The lower figure of $27.88 reported by Manitoba Medical Service to Trans Canada Medical Plans, Inc. (1960), as the per capita claims cost of comprehensive coverage places a quantitative measure on this factor. See Trans Canada Medical Plans, Inc. (1960), submission to the Royal Commission on Health Services, Toronto, May 1962, Exhibit XI.

[4] Many of the (comprehensive) insurance contracts in force in 1961 provided benefits for more than physicians' services. For example, major medical contracts typically include benefits for drugs, semi-private ward hospital accommodation, private duty nursing, and appliances. The implied comparison of Table 4–4 is, if anything, overly fair to the carriers in question. Table 4–4, however, almost of necessity lumps all carriers together, a procedure which by definition will be unfair to some.

TABLE 4–4

AVERAGE CLAIMS PER CAPITA AS PER CENT OF ESTIMATED TOTAL EXPENSE FOR PHYSICIANS' SERVICES, 1961

Type of Carrier	Estimated Coverage (Persons)	Estimated per Capita Expense for Physicians' Services	Reported Claims per Capita	Claims as Per cent of Estimated Total Expense
		$	$	
Stock Companies				
Group	1,855,201	23.50	14.49	61.7
Non-Group	289,865	23.50	5.04	21.4
Mutual Companies				
Group	2,275,374	23.50	15.29	65.1
Non-Group	216,083	23.50	10.71	45.6
Co-operatives and Fraternals				
Group	55,563	23.50	5.77	24.6
Non-Group	82,807	23.50	6.28	26.7
Prepayment Plan				
Group	4,087,772	27.00	21.51	79.7
Non-Group	761,772	27.00	21.94	81.3
All Carriers				
Group	8,273,910	25.35	18.40	72.6
Non-Group	1,350,527	25.47	15.41	60.5
No Carrier (uninsured)	8,613,563	15.48	(NIL)	0.0
Total Canadian Population	18,238,000	21.01	8.94	42.6

Source: Survey of Voluntary Carriers. (See also text pp. 66–67.)

These estimates in turn imply an average per capita expenditure of approximately $15.50 by those Canadians without coverage. This is not unreasonable, especially in view of the fact that many persons in this category would have received at least some services at public expense. Furthermore, it is in this area, the area of no coverage whatsoever, that the utmost in private "economy" with respect to physicians' services would be practised. A per capita average below the national average is therefore to be expected.

Table 4–4 expresses the claims per capita entries of Table 4–3 as a percentage of these estimates of the total cost of physicians' services for each type of carrier. As in Table 4–3, the prepayment plans stand out. Eighty per cent of all expenses for physicians' services would,on the basis of these estimates, have been paid by the prepayment carriers on behalf of their subscribers.[1]

A similar comparison for the insurance carriers presents a somewhat different picture. While slightly more than 60 per cent of total expenses can be accounted for by claims against group contracts, for non-group contracts as a

[1] In terms of relatively crude reasoning, this estimate is not far from what might *a priori* have been expected. Approximately a third of all prepayment subscribers were limited to in-hospital services. These services in turn amount to about a third of the cost of all physicians' services. The 80 per cent figure derived above is consistent with the assumption that each type of contract paid all costs within each eligible category.

whole less than 35 per cent of those estimated total medical costs appear to have been covered by the protection in force. For the 289 thousand persons in the category with contracts issued by stock companies, the figure is 21.4 per cent. Corresponding percentages for coverage issued by the cooperatives and fraternal organizations are also low, but here, as in Table 4–3, the relative paucity of information makes these estimates suspect.

While it appears that about 70 per cent of the total expenses of the covered population, and 43 per cent of those of the entire Canadian population were, in 1961, covered by medical insurance and prepayment contracts then in force, the inclusion of at least some claims for non-physicians' services in these calculations would tend to make these total percentages too high. The estimates of Table 4–4 are a more accurate measure of the *relative* standings of the various carriers than of the *absolute* contribution of these contracts toward the payment of the costs of physicians' services.

SUMMARY

The statistics of this chapter must be interpreted with care. In spite of the common reaction that the "ideal" contract should provide a complete shifting of the cost of necessary medical services to the carriers, and hence an implied standard of 100 per cent for the type of comparison presented in Table 4–4, this is by no means clear. There are costs, both technical and perhaps also medical, in such complete coverage.[1] The appropriate standard against which such a comparison is to be judged is, at least in part, a consequence of the purpose that insurance or prepayment protection is considered to serve. If the function of this protection is to encourage the utilization of medical services and to remove all direct cost associated with the incremental use of such services, then 100 per cent carrier liability may indeed be the appropriate standard. If, on the other hand, this protection is considered as a device alleviating the risk of extreme medical expense, then a far lower percentage is fully consistent with a standard of excellence in contract design and performance. This risk of reducing function of medical and surgical insurance and prepayment protection is empirically demonstrated in Chapter 5. Chapter 6 provides measures of the extent to which full coverage can influence the utilization of medical services. Each of these is relevant to any detailed evaluation of the pattern of industry behavior here reported.

[1] These "medical" costs are generally assumed to stem from a misuse of medical facilities resulting from the lack of direct private cost associated with their utilization.

CHAPTER 5

MEDICAL EXPENSES AND MEDICAL INSURANCE

In some cases the need for medical care can be foreseen. In others, needed medical services can be postponed. In most instances, however, the need for medical care -- its timing, or even its occurence -- cannot, for the individual, be predicted. When illness or injury occurs, the need for medical care can be immediate. Its cost can be high.

This circumstance has led to the development of voluntary medical insurance. In this sense, medical insurance is like any other form of insurance.[1] It represents a pooling of interests in recognition that while one individual's need at any given time is unknown, the collective needs of a large group can be accurately predicted.[2] Each member of an insured group can thereby support a small part (his proportionate share) of the medical care required by the group as a whole, and the risk of high (or the chance of little or no) medical expense is removed for any single individual.[3]

A major part of the desirability of medical insurance stems from this reduction of uncertainty.[4] Medical insurance, whether social or private, is not a panacea whereby medical services are suddenly rendered free of charge or cost. It is a collective device whereby insured persons share the total cost of the

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[1] There are, of course, other features peculiar to medical insurance alone. For example, there is the tendency of some forms of medical insurance or prepayment coverage to encourage the utilization of available medical facilities. This and other aspects of medical insurance are discussed more fully in Chapter 6.

[2] This statement is a simple application of the familiar central limit theorem. See P.G. Hoel, *Introduction to Mathematical Statistics*, 2nd ed. (Wiley, 1954), pp. 107–13.

[3] Note that the costs of illness or injury are not confined, as is implied here, merely to medical care. Indeed, other costs — loss of income, pain, prolonged suffering, frustration, and disability — are apt to be far greater, both in a personal *and* a financial context. Although this study is concerned exclusively with the direct costs of medical care, the reader should bear in mind that those represent only a small fraction of the total burden which ill-health can, and frequently does, impose.

[4] In Chapters 6 and 7 the role of medical insurance and prepayment as a factor influencing the utilization of medical services is considered. The present chapter is concerned primarily with the contribution of insurance and prepayment in alleviating the risk associated with the cost of medical care.

insured group as a whole. It is an alternative to the situation where each individual contributes to this total cost in proportion to medical care actually received. The benefit lies not in any reduction of the cost of medical care but simply in the elimination of uncertainty.

This chapter attempts to measure the degree to which medical expenses vary among individuals or families. The resulting distributions of expense illustrate the nature of the risk that medical insurance or prepayment seeks to avoid. Later discussion relates this feature of medical needs to current public policy issues in this field.

THE DISTRIBUTION OF ANNUAL MEDICAL EXPENSES

Put somewhat differently, this chapter estimates, for given types of families, the probabilities of various levels of annual family medical expense. These distributions have been estimated from the realized experience of large numbers of different "types" of families. In effect, families have been placed in categories within which all are assumed to have initially had equal levels of *expected* medical expense. The realized experience of those families forms the basis for predicting the experience of other similar families.

Individuals (or families) do, of course, differ with respect to their inherent "healthiness". In addition, individuals differ in what they consider an appropriate standard of medical care. For both reasons, the experience of a large number of other people might be considered inappropriate as a measure of the expected experience of a particular individual. The degree of correction for these factors attempted here is limited.

With respect to the first, this chapter considers only age and family size as factors leading to different expectations of medical need. Within any family category defined in these terms, there will be other factors leading to differential medical expense. For most of these families, however, there is no satisfactory basis for such distinction. While it is true that some families, by virtue of occupation, location, or previous experience with chronic and continuing disease, will be clearly separable, at some previous time, that information would not have been available. The couple with a chronically ill child earlier was a healthy childless couple. It is hindsight which permits another family, similar in age and composition, but without the handicaps of chronic illness, to say, "We don't belong in that category". Similarly, occupation and location, which also affect medical experience, are only rarely chosen for reasons of health and then typically after the fact rather than before. The analysis presented here does not attempt to correct for these *ex post* considerations. The distributions contained by this chapter reflect the influence of both illness and health, and of both dangerous and safe, active and sedentary occupations.

The second of these factors, attitudes toward medical needs, requires definition of a standard of medical care. This is here defined by the data on which the analysis is based. These data are from Manitoba Medical Service, a non-profit, doctor-sponsored medical prepayment plan in Manitoba. The operation of this organization and the data provided are discussed in some detail below. The analysis takes as its standard those services which the M.M.S. subscriber population received under the provisions of the prepayment plan considered. Those services, after the payment of a monthly or quarterly subscription fee, were available without charge.[1] The implied standard corresponds, therefore, to the treatment that would be elected, under the circumstances existing in Manitoba, if medical services were free. No subscriber under the plans considered was denied any medical service requested for which there was medical need. Although differences were undoubtedly present in the response of individuals to these "free" services, those differences were not a direct consequence of any limitation of income. To a degree, therefore, differing income ceases to be a factor affecting the demand for, or defining the standard of, the medical service received.[2]

In summary, this analysis classifies families only with respect to composition and age, and the medical costs presented are those incurred when the utilization of medical services is not affected by the direct personal cost of those services.[3] The distributions of medical costs so derived form the basis for estimating probability distributions of individual family medical expense on the assumption that, in the absence of prepayment or insurance coverage, medical services would have been used to this same degree.

Some discussion of Manitoba Medical Service, the data made available, and the processing of these data, precedes the actual presentation of those distributions.

MANITOBA MEDICAL SERVICE

Manitoba Medical Service (M.M.S.) was incorporated as a voluntary non-profit corporation in 1942. Prepayment contracts were first issued in 1944. In 1961, roughly 41 per cent of the total population of Manitoba, and over 70 per cent

[1] In many instances the subscription was paid by an employer, and hence the full range of services were, in effect, free to the subscriber.

[2] Income is probably an important factor determining "needed" medical services. A wealthy family may "need" more frequent office visits or house calls and may, for example, regard a private hospital room as a necessity. Families with lower incomes may tend to economize in both directions. To the extent that prior experience is habit-forming, income would still be a factor affecting medical services even under plans such as those studied here. This effect would be expected to diminish over time. This is a prime reason for expecting growth in the utilization of medical facilities following the introduction of any universal medical prepayment or insurance coverage. See Chapter 7.

[3] Although the medical services were available without charge, there may have been related services which were not. Thus, if an office call results in a drug prescription, the visit may have "cost" something.

of the population of metropolitan Winnipeg were covered by M.M.S. contracts.[1] M.M.S. subscribers received medical services from participating physicians, not indemnification against the cost of those services. More than 99 per cent of all physicians in private practice in the province of Manitoba in 1961 were participating physicians of Manitoba Medical Service.[2]

M.M.S. offered three basic contracts. "Plan H" provided for the personal services of a physician while the subscriber was an admitted bed patient in hospital. "Plan HC" extended the coverage of "Plan H" to include the physician's home and office calls. "Plan HCX", the comprehensive plan (and the most comprehensive of its size in Canada, if not in North America), provided all necessary physicians' services, in or out of hospital, and a wide range of ancillary services, including laboratory tests, X-ray services, injections, allergy care, necessary consultations, and services for cosmetic purposes, tuberculosis, alcoholism, drug addiction, self-inflicted injuries, routine new-infant care, and limited health examinations. Specifications of the services provided by this plan is included in Appendix IV.

Under these plans, members had direct access to both specialists and general practitioners. No waiting periods (other than for maternity care) were imposed for pre-existing conditions. Services were paid in full for subscribers and/or eligible dependents in all cases where annual family income did not exceed $10,000.00.[3] Each of these plans was available on a group, non-group, or group conversion basis. These contracts were available, as of December 1961, at the following annual rates.

	Single Persons	*Family*
	Non-Group Contracts	
Plan H	$ 18.00	$ 48.00
Plan HC	36.00	106.20
Plan HCX	48.50	138.00
	Group Contracts[a]	
Plan H	13.20	38.40
Plan HC	33.00	85.80
Plan HCX	43.20	108.00

(a) M.M.S. experience rates all group contracts. The above rates were applicable in 1961 to new groups in the greater Winnipeg area.

[1] M.M.S. sponsored by the Manitoba Medical Association, is administered by a Board of Trustees consisting of 24 members who serve three-year terms without remuneration. Sixteen are appointed on the recommendation of the Manitoba Medical Association. Eight non-physicians are appointed by the M.M.S. Board itself.

[2] This is the highest percentage of any prepayment plan in Canada. Manitoba Medical Service was also the provincial prepayment plan with the most complete coverage in Canada.

[3] For families with annual incomes exceeding this limit, the M.M.S. payment may have been "only a part of the physician's reasonable and customary fee". See Appendix IV.

In April 1962 Manitoba Medical Services made available to this study complete records of claims and membership during 1961. This information, released after coding to prevent either doctor or patient indentification, contained full specification of roughly 1,500,000 claims against a membership of 118,000 contracts.[1]

Classification of Households

This study considers only the experience of Plan HCX, the most comprehensive contract. No distinction was made between group and non-group contracts. In the processing of these data, non-HCX claims and memberships were deleted. The remaining HCX contracts were considered as a single homogeneous group.[2] Within that group, claims were matched against the active M.M.S. membership in December 1961.[3] This membership was classified by the age and sex of the contract holder, the presence or absence of a spouse, and the number of additional dependents covered by the contract.[4] In all, 27 classes of household were defined: single males, single females, and couples, each subdivided into nine classes according to the number of children covered, beginning with no children and ending with eight or more children.[5] Each of these 27 household classes was further classified according to the age of household head. For this latter classification six age classes were used: 15–24, 25–34, 35–44, 45–54,

[1] Each claims record contained the following information: the attending physician's identification number (coded), that physician's specialty (if any), the patient's contract and group number (coded), the type of contract, the patient's sex, year of birth, and township, the referring (if any) doctor's identification number (coded), the date the patient's contract became effective, the date of the service rendered, a morbidity coding of the physician's diagnosis, the service rendered as identified by a coding of the Schedule of Fees of the Manitoba Medical Association, and the assessed fee rendered by the attending physician. Several summary measures were also included. Membership records showed for each contract, regardless of claims, the contract type, number and group number (coded consistently with the claims records), the year of birth of both the subscriber and spouse (if any), the subscriber's sex, and the original effective date of membership in M.M.S. That this information was available is a tribute to the administrative standards and foresight of Manitoba Medical Service. The Royal Commission on Health Services was not able to locate this type of information in this form anywhere else in Canada. None comparable has been called to our attention in the United States.

[2] Eight separate categories maintained by the M.M.S. were thus lumped together: group contracts — family plan HCX and individual plan HCX; group conversion contracts — family plan HCX and individual plan HCX; non-group contracts — family plan HCX and individual plan HCX; and railway option and management groups — family plan HCX and individual plan HCX. The railway groups included persons normally covered by a special but more limited M.M.S. contract, who elected to add the additional services provided by the HCX contract.

[3] The claims and membership information was received from M.M.S. in random order. The initial data processing involved the preparation of two sets of magnetic tapes, one containing claims in order of ascending contract number, the second a matching membership tape. These tapes were scanned simultaneously matching claims and memberships by contract number. This work was made possible through the generosity of the Yale University Computer Center in New Haven, Connecticut. The Center contributed the full range of its facilities and staff, including the use of IBM 709, 1401, and 1620 computers.

[4] Where both husband and wife were present, the husband was considered the household head.

[5] The term children is used loosely. Households were classified according to the number of dependents other than spouse. In some instances, dependents other than children were present. The error which results from treating these dependents as children is, however, negligible since the great majority of dependents were children.

55–64, and 65–74. In all, therefore, the Plan HCX membership was distributed into 162 categories, the membership being assumed, for purposes of analysis, to be homogeneous within each category.[1] No household was included in this analysis unless coverage was in force for the full 12 months of 1961.[2]

Categories of Medical Expense

These data were processed to generate frequency distributions of medical expenses for each of the 162 household classes for the following six categories of medical expense:

1. All services provided by Plan HCX.
2. All in-hospital HCX services.[3]
3. All out-of-hospital HCX services.
4. All HCX services other than surgery, maternity, and new-infant care.
5. All home and office calls.
6. All X–ray and diagnostic laboratory services available under Plan HCX.

This classification follows general industry practice in defining health insurance or prepayment coverage.

The distributions of the cost of all HCX services that follow are considered estimates of the monetary risk borne by those persons without any prepayment or insurance protection but who nonetheless enjoy the M.MS. standard of medical care. The distribution of out-of-hospital expense, by comparison, shows the risk that would remain if in-hospital coverage were elected. The distribution of in-hospital expense is included here for illustrative purposes. If the function of medical insurance is risk reduction, then the prime justification for coverage of only in-hospital costs would be that these costs are more widely distributed than out-of-hospital expense, and that the nature of the latter is such that this risk is

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[1] It was not feasible to make the obviously desirable further breakdown into urban and rural groups. The township of residence of these members was recorded only for members with claims. No information in this regard was available for persons without claims. The rural-urban factor is considered further in Chapter 6.

[2] Some families joined M.M.S. after January 1, 1961; others cancelled M.M.S. coverage during the year. Such contracts were excluded.

[3] The definition of in-hospital services was not easily accomplished. The purpose of this classification was to show that risk which would be avoided by a more limited (for example, Plan H) contract, covering only services rendered to an admitted bed-patient in hospital. Initially it seemed that the presence of a hospital code on the claims record itself would be sufficient for this purpose. Unfortunately that test proved unreliable because of the tendency of physicians to omit the code when filing in-hospital claims and also because of the tendency for hospital-based physicians to include it when reporting claims for out-patient services. Accordingly services were considered in-hospital services if, in the eyes of M.M.S., the service in question would have been an acceptable Plan H service had the patient been a bed-patient in hospital. This required a classification of services by fee tariff code, and includes services (for example, surgery) which were to some extent carried out in doctors' offices or at patients' homes but which nevertheless might have formed a basis for hospital admission. The definition is liberal, and the resulting distributions stand as an upper limit to the coverage afforded by an in-hospital contract. Out-of-hospital expense was defined as the cost of all services less the cost of in-hospital services.

more readily borne by the insured himself. The display of these two distributions permits a test of the empirical validity of this assertion.[1]

Similarly, isolation of the cost of all HCX services except surgery, maternity, and new-born infant care illustrates the distribution of costs that would be borne privately by individuals electing only coverage of surgical and maternity services.[2]

Office and home calls were segregated for additional reasons. This category of medical expense is quantitatively more important even than surgery.[3] No other single category of medical expense accounts for as large a percentage of total cost in the comprehensive prepayment plans. Furthermore, office and home calls are those services whose use would be expected to increase most with the introduction of insurance or prepayment coverage. It might also be assumed that the distribution of this category would tend to be equal among subscribers, and that the likelihood of large annual family expense from office and home calls is substantially less than, for example, from surgery. These two hypotheses support each other in suggesting that the rejection of coverage is more appropriate here than elsewhere in the medical field, and hence that the exclusion of these services from any prepayment or insurance package is apt to reduce substantially not only the administrative cost but also the claims cost of any insurance or prepayment plan.[4]

Finally X–ray and diagnostic laboratory services were treated separately because these services are themselves frequently excluded or subject to maximum limits in medical insurance or prepayment contracts.[5] Again, the distribution of

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[1] This reasoning, however rational, is probably not the basic one for the popularity of the in-hospital contract. It is more likely that many applicants feel, rightly or wrongly, that in-hospital treatment when required is unavoidable and therefore a hazard, whereas out-of-hospital treatment is a luxury that can be avoided if necessary. Despite the general acceptance of the in-hospital contract reported in Chapter 1, more than 82 per cent of all M.M.S. subscribers and dependents were covered by the comprehensive Plan HCX.

[2] Well-baby care is not generally included with maternity expense. For purposes of analyzing the impact of the more common current surgical and maternity contracts, this inclusion is inappropriate. Well-baby care was included to make possible cost estimates, presented in Chapter 6, of a contract including the preventive care, largely on the grounds that encouragement of this care is socially desirable.

[3] A detailed breakdown of average family medical expense by category of expense is given in Appendix III.

[4] A major portion of the operating cost of medical insurance or prepayment stems from the processing and paying of claims. Office and home calls occur frequently and are small per claim. The operating cost of including this coverage is therefore large compared with the cost of surgical coverage, where individual claims tend to be large but infrequent.

[5] X-ray or laboratory services of more than $25 per person per year are frequently excluded under more or less "standard" medical insurance packages. This exclusion from coverage of services creating expense over and above some stated ceiling is contrary to the rationale for coverage in the first place. If services are to be partially covered, this coverage ought, for risk avoidance, to begin rather than end with whatever ceiling is imposed. Not only would the cost of the prepaid or insured services be far less to all subscribers, but those benefits subscribers find most burdensome would be covered, rather than the other way around. The whole area of medical insurance is filled with logical contradictions of this sort. Insofar as it is effective, the ceiling on major medical contracts is another illustration. This one stems reportedly from an essentially meaningless interpretation of applied mathematics.

expense from this source illustrates the risk imposed by the exclusion of these services.

Table 5–1 shows the distribution of M.M.S. families according to age and family size. This is the population of covered families on which the following tabulations are based.[1]

The Distribution of Medical Expense

Tables 5–2 through 5–9 contain, for each of eight family classifications, the distribution of six classes of realized medical expense for each of six age categories of household head. For example, the first entry in Table 5–2 shows that, of 3,551 single male persons aged 15–24 with HCX coverage in 1961, 37.5 per cent filed no claims in 1961. Putting it differently, 0.375 is an estimate of the probability that a single male, aged 15–24, who enjoyed the 1961 M.M.S. standard of medical care, would have incurred zero annual medical expense in that year. Similarly the probability of that person's incurring annual expense under these circumstances of more than $500 is .001. Each row of Table 5–2 is, in effect, a probability distribution of realized total annual medical expense for individuals choosing to be without prepayment protection.

There is, especially at the upper extremes, less of a spread in these distributions than is commonly supposed. Very few younger single persons, male or female, filed annual claims for all eligible medical services of more than $250. Below age 35, less than 1.5 per cent of females and 1 per cent of males were found to have total claims for all services exceeding $250 in 1961. These percentages increase with age, more steeply in the case of men than women; but even with this increase roughly 92 per cent of all men and 95 per cent of all women 65–74 years of age incurred total claims of less than $250. In each instance the percentage of individuals with total claims exceeding $749 was below 0.5 per cent.

For couples the pattern is similar. The amounts involved are higher because of the larger number of persons per family, but total claims still rarely exceed $749. In no instance is the percentage of families with total expenses exceeding $749 as much as 0.5 per cent of the total number of corresponding households.[2]

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[1] This sample excluded all families without continuous coverage under Plan HCX for the full 12 months of 1961. Subscribers joining M.M.S. in 1961 or changing to plan HCX in 1961 are excluded. The number of families thus excluded was not minor. *More than 22,000 families with Plan HCX coverage in December 1961 did not have this coverage in force a year earlier.*

[2] This may be misleading. The M.M.S. membership included relatively few large families where high concentration in the upper expense categories would be expected. Distributions for these families are not presented here because of their limited validity.

TABLE 5-1

NUMBER OF FAMILIES WITH CONTINUOUS MANITOBA MEDICAL SERVICE PLAN HCX COVERAGE DURING 1961, BY AGE OF HOUSEHOLD HEAD AND SIZE OF FAMILY

Type of Family	Age of Contract Holder																			
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85–89	90–94	95–99	Total
Single Males																					
With 0 Children.....	22	24	53	224	3,327	1,322	793	642	462	492	453	465	466	498	394	244	82	22	6	1	9,992
1 Child.....	–	–	–	–	–	1	5	2	8	11	12	5	5	7	–	–	–	–	–	–	56
2 Children.....	–	–	–	–	1	2	9	9	6	8	7	2	3	–	–	–	1	–	–	–	48
3 Children.....	–	–	–	–	–	–	–	3	7	3	3	1	–	–	–	–	–	–	–	–	17
4 Children.....	–	–	–	–	–	–	–	2	1	–	1	1	–	–	–	–	–	–	–	–	5
5 Children.....	–	–	–	–	–	–	–	1	1	3	1	–	–	–	–	–	–	–	–	–	6
6 Children.....	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
7 Children.....	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0
8+Children.....	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
Single Females																					
With 0 Children.....	27	24	56	357	2,855	1,117	937	1,003	1,130	1,582	1,793	1,815	1,669	1,472	916	430	157	39	7	–	17,386
1 Child	–	–	–	1	8	25	39	38	5i	77	35	25	2	1	–	–	–	–	–	–	302
2 Children.....	–	–	–	–	7	25	43	80	76	71	42	6	–	–	–	–	–	–	–	–	350
3 Children.....	–	–	–	–	4	9	9	26	24	24	6	1	–	–	–	–	–	–	–	–	103
4 Children.....	–	–	–	–	–	6	6	13	9	4	–	–	–	–	–	–	–	–	–	–	38
5 Children.....	–	–	–	–	–	–	1	4	2	–	1	–	–	–	–	–	–	–	–	–	8
6 Children.....	–	–	–	–	–	–	–	2	2	1	–	–	–	–	–	–	–	–	–	–	5
7 Children.....	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0
8+Children.....	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Couples																					
With 0 Children.....	–	–	–	16	1,103	1,587	986	714	717	1,186	2,117	2,600	2,420	2,277	1,376	479	123	20	5	1	17,727
1 Child.....	–	–	–	15	761	1,776	1,425	1,126	1,231	1,791	1,746	1,006	372	138	34	3	–	–	–	–	11,424
2 Children.....	–	–	–	2	367	1,714	2,500	2,548	2,380	2,041	1,093	420	121	24	12	1	–	–	–	–	13,223
3 Children.....	–	–	–	–	67	758	1,718	2,014	1,778	1,070	446	150	53	13	1	–	–	1	–	–	8,069
4 Children.....	–	–	–	1	15	235	722	1.043	880	495	182	62	8	5	1	–	–	–	–	–	3,649
5 Children.....	–	–	–	–	2	60	239	402	365	186	79	21	8	1	–	1	–	–	–	–	1,364
6 Children.....	–	–	–	–	1	14	83	163	154	79	29	15	4	–	–	–	–	–	–	–	542
7 Children.....	–	–	–	–	–	1	28	73	81	38	12	3	–	1	–	–	–	–	–	–	237
8+Children.....	–	–	–	–	–	2	9	50	46	44	17	6	1	1	–	–	–	–	–	–	176

Source: Membership Records of Manitoba Medical Service, 1961.

TABLE 5–2

SINGLE MALE PERSONS, BY AGE AND BY AMOUNT OF SELECTED ANNUAL MEDICAL EXPENSE, 1961

Age	Class of Medical Expense	Per cent of Persons with Annual Medical Expense of										Total Number of Persons
		$0	$0–$24	$25–$49	$50–$99	$100–$149	$150–$249	$250–$349	$350–$499	$500–$749	$750+	
15–24	All services	37.5	39.7	12.0	6.4	2.2	1.7	0.4	0.1	0.1	–	3,551
	In-hospital services	83.8	10.4	2.0	1.2	1.2	1.0	0.2	0.1	–	–	3,551
	Out of hospital services	39.6	42.2	11.4	5.4	0.9	0.5	–	–	–	–	3,551
	All services except surgery and maternity	39.5	41.7	11.6	5.7	0.9	0.5	0.1	–	–	–	3,551
	All home and office calls	43.6	48.2	6.3	1.5	0.3	0.1	–	–	–	–	3,551
	All laboratory services[a]	77.8	16.9	4.4	0.9	0.1	–	–	–	–	–	3,551
25–34	All services	39.0	35.1	12.4	7.8	3.2	1.6	0.5	0.3	–	–	2,115
	In-hospital services	85.2	9.0	1.9	1.8	1.1	0.9	0.2	–	–	–	2,115
	Out of hospital services	39.9	38.4	12.5	6.6	1.7	0.7	0.2	–	–	–	2,115
	All services except surgery and maternity	39.8	38.0	12.4	6.6	2.0	0.9	0.3	–	–	–	2,115
	All home and office calls	44.1	45.4	7.5	2.5	0.4	0.1	–	–	–	–	2,115
	All laboratory services[a]	74.4	18.4	5.4	1.7	0.1	–	–	–	–	–	2,115
35–44	All services	42.3	29.3	12.9	6.5	4.3	2.9	1.0	0.6	0.2	–	1,104
	In-hospital services	84.1	8.6	1.6	2.5	1.4	0.8	0.7	0.3	–	–	1,104
	Out of hospital services	43.1	33.1	11.5	7.3	3.2	1.6	0.2	–	–	–	1,104
	All services except surgery and maternity	43.0	31.8	12.1	7.0	3.8	2.0	0.3	–	–	–	1,104
	All home and office calls	46.4	41.1	7.5	3.8	1.1	0.1	–	–	–	-	1,104
	All laboratory services[a]	74.2	16.2	5.9	3.3	0.4	0.1	–	–	–	–	1,104

45–54	All services	38.9	26.8	12.7	11.4	3.8	3.2	1.1	1.6	0.4	0.1	945
	In-hospital services	82.2	8.5	1.9	3.0	1.3	1.6	0.8	0.5	0.2	–	945
	Out of hospital services	39.6	30.5	12.9	11.3	3.3	1.8	0.5	–	0.1	–	945
	All services except surgery and maternity	39.4	29.5	12.7	10.7	3.8	2.6	0.7	0.4	0.1	–	945
	All home and office calls	42.4	41.8	9.8	4.7	1.0	0.2	0.1	–	–	–	945
	All laboratory services[a]	68.8	18.4	7.6	3.8	0.8	0.5	–	–	–	–	945
55–64	All services	33.7	23.1	15.8	12.6	5.4	5.4	2.2	1.0	0.9	–	931
	In-hospital services	76.9	8.4	3.8	4.7	2.0	2.4	1.1	0.4	0.3	–	931
	Out of hospital services	34.7	27.8	17.3	13.3	3.7	2.7	0.1	0.3	0.1	–	931
	All services except surgery and maternity	34.5	26.0	16.4	13.2	4.4	4.2	0.9	0.2	0.2	–	931
	All home and office calls	36.8	41.6	13.9	6.1	0.9	0.4	0.3	–	–	–	931
	All laboratory services[a]	63.2	23.2	8.7	4.0	0.6	0.3	–	–	–	–	931
65–74	All services	28.5	22.8	14.1	12.3	7.3	7.0	3.7	2.5	1.5	0.4	892
	In-hospital services	69.1	11.5	4.5	4.9	2.0	2.7	3.5	0.9	0.8	0.1	892
	Out of hospital services	29.5	27.6	15.4	14.7	8.7	2.9	0.7	0.4	–	0.1	892
	All services except surgery and maternity	28.8	25.8	14.1	14.2	8.1	5.7	1.8	1.1	0.2	0.1	892
	All home and office calls	31.3	38.2	18.3	8.9	2.4	0.6	0.4	–	–	–	892
	All laboratory services[a]	62.0	19.3	11.3	6.1	0.8	0.6	–	–	–	–	892

(a) Includes X-rays.

Source: Claims Records of Manitoba Medical Service, 1961.

TABLE 5–3

SINGLE FEMALE PERSONS, BY AGE AND BY AMOUNT OF SELECTED ANNUAL MEDICAL EXPENSE, 1961

Age	Class of Medical Expense	Per cent of Persons with Annual Medical Expense of										
		$0	$0–$24	$25–$49	$50–$99	$100–$149	$150–$249	$250–$349	$350–$499	$500–$749	$750+	Total Number of Persons
15–24	All services	26.9	40.6	15.3	10.8	3.0	2.4	0.6	0.3	0.1	–	3,212
	In-hospital services	84.6	8.1	2.7	2.1	1.0	1.2	0.2	0.1	0.1	–	3,212
	Out of hospital services	27.7	43.8	16.0	9.5	2.1	0.7	0.1	0.1	–	–	3,212
	All services except surgery and maternity	27.5	43.4	15.9	9.8	2.1	1.0	0.1	0.1	–	–	3,212
	All home and office calls	31.9	51.9	11.5	3.9	0.6	–	0.1	–	–	–	3,212
	All laboratory services[a]	68.8	23.8	5.2	1.8	0.4	–	–	–	–	–	3,212
25–34	All services	28.7	35.9	15.1	11.5	4.7	2.7	1.1	0.2	0.1	–	2,054
	In-hospital services	84.1	7.9	3.0	2.4	0.9	1.3	0.3	–	–	–	2,054
	Out of hospital services	29.5	38.8	15.9	11.0	3.2	1.2	0.4	0.1	–	–	2,054
	All services except surgery and maternity	29.3	38.6	15.7	10.6	4.1	1.2	0.3	0.2	–	–	2,054
	All home and office calls	33.9	48.1	11.7	4.5	1.3	0.3	0.1	–	–	–	2,054
	All laboratory services[a]	65.4	24.3	7.4	2.6	0.2	0.1	–	–	–	–	2,054
35–44	All services	28.4	33.0	14.5	12.7	4.5	4.4	1.5	0.7	0.3	0.1	2,133
	In-hospital services	78.8	10.2	2.6	4.1	0.9	2.4	0.6	0.2	0.1	–	2,133
	Out of hospital services	29.0	37.0	15.7	12.5	3.6	1.9	0.2	0.1	0.1	–	2,133
	All services except surgery and maternity	28.9	36.4	15.7	12.2	3.7	2.3	0.4	0.3	–	–	2,133
	All home and office calls	33.9	45.5	12.8	5.9	1.4	0.3	0.2	–	–	–	2,133
	All laboratory services[a]	61.5	27.3	8.1	2.9	0.2	0.1	–	–	–	–	2,133

45–54	All services	22.2	31.6	16.6	15.4	6.3	4.5	1.8	0.9	0.6	0.1	3,375
	In-hospital services	77.7	10.8	2.7	3.8	1.2	2.3	0.8	0.4	0.3	0.1	3,375
	Out of hospital services	22.7	35.1	18.0	15.8	5.6	2.4	0.2	0.1	–	–	3,375
	All services except surgery and maternity	22.7	34.4	17.9	15.7	5.6	2.8	0.7	0.2	–	–	3,375
	All home and office calls	27.3	46.9	17.2	6.9	1.3	0.4	–	–	–	–	3,375
	All laboratory services[a]	55.7	28.7	10.4	4.3	0.8	–	–	–	–	–	3,375
55–64	All services	23.0	27.6	16.7	16.3	6.4	6.0	2.4	1.1	0.5	0.1	3,484
	In-hospital services	75.4	11.1	3.4	4.6	1.4	2.4	1.1	0.4	0.2	–	3,484
	Out of hospital services	23.5	31.5	17.9	17.1	6.3	3.1	0.5	0.1	–	–	3,484
	All services except surgery and maternity	23.4	30.1	17.5	16.8	6.2	4.7	0.8	0.4	0.1	–	3,484
	All home and office calls	26.5	44.5	17.2	9.7	1.5	0.5	0.1	–	–	–	3,484
	All laboratory services[a]	54.8	28.3	10.8	5.1	1.0	0.1	–	–	–	–	3,484
65–74	All services	20.9	25.3	18.7	16.7	6.7	6.5	3.1	1.4	0.6	0.1	2,388
	In-hospital services	73.5	10.1	4.6	4.9	2.1	2.9	1.1	0.6	0.1	0.1	2,388
	Out of hospital services	21.5	30.2	20.5	17.0	6.1	3.7	0.7	0.1	0.1	–	2,388
	All services except surgery and maternity	21.4	28.4	19.9	17.0	6.6	4.5	1.5	0.5	0.2	–	2,388
	All home and office calls	24.0	43.8	19.0	10.1	1.9	1.1	0.1	–	–	–	2,388
	All laboratory services[a]	55.1	28.4	10.0	5.3	1.1	0.1	–	–	–	–	2,388

(a) Includes X-rays.

Source: Claims Records of Manitoba Medical Service, 1961.

TABLE 5–4

COUPLES WITH NO CHILDREN, BY AGE OF FAMILY HEAD AND BY AMOUNT OF SELECTED ANNUAL MEDICAL EXPENSE, 1961

Age of Family Head	Class of Medical Expense	Per cent of Couples with Annual Medical Expense of										
		$0	$0–$24	$25–$49	$50–$99	$100–$149	$150–$249	$250–$349	$350–$499	$500–$749	$750+	Total Number of Couples
15–24	All services	16.1	39.4	18.0	15.5	4.9	4.2	1.3	0.4	0.3	–	1,119
	In-hospital services	73.3	14.4	4.1	3.8	1.9	1.6	0.6	0.1	0.2	–	1,119
	Out of hospital services	17.1	44.4	19.5	13.5	4.1	1.3	0.2	–	–	–	1,119
	All services except surgery and maternity	17.0	43.8	19.5	13.8	4.3	1.5	0.2	–	–	–	1,119
	All home and office calls	19.1	58.1	16.2	5.9	0.6	0.1	–	–	–	–	1,119
	All laboratory services[a]	57.8	29.5	8.3	3.7	0.6	0.1	–	–	–	–	1,119
25–34	All services	12.9	31.9	19.2	19.1	7.3	6.6	2.2	0.7	0.1	–	2,573
	In-hospital services	70.2	14.9	4.3	5.0	2.4	2.6	0.5	0.1	0.1	–	2,573
	Out of hospital services	13.7	36.2	21.6	19.3	6.0	2.6	0.5	0.1	–	–	2,573
	All services except surgery and maternity	13.7	35.9	21.7	18.8	6.1	2.9	0.8	0.1	–	–	2,573
	All home and office calls	16.1	52.4	20.9	9.2	1.0	0.3	0.1	–	–	–	2,573
	All laboratory services[a]	49.0	31.8	12.6	5.2	1.0	0.3	–	–	–	–	2,573
35–44	All services	12.2	25.5	18.1	21.2	9.2	7.5	3.6	1.8	0.7	–	1,431
	In-hospital services	65.2	16.4	4.5	6.4	2.3	3.4	1.2	0.3	0.3	–	1,431
	Out of hospital services	12.6	30.5	20.3	22.3	8.2	4.8	1.0	0.3	0.1	–	1,431
	All services except surgery and maternity	12.6	29.6	20.3	22.1	8.2	5.3	1.2	0.6	0.1	–	1,431
	All home and office calls	15.0	46.1	23.4	12.0	2.4	0.8	0.3	–	–	–	1,431
	All Laboratory services[a]	43.4	31.7	14.0	8.5	1.7	0.6	0.1	–	–	–	1,431

45–54	All services	8.9	21.7	16.8	21.7	11.7	10.5	5.2	2.2	1.0	0.2	3,303
	In-hospital services	60.6	16.6	6.4	6.3	3.5	3.8	1.8	0.6	0.3	—	3,303
	Out of hospital services	9.4	25.6	20.3	24.5	11.0	7.1	1.6	0.4	0.1	—	3,303
	All services except surgery and maternity	9.3	24.8	19.7	23.9	11.1	8.0	2.3	0.6	0.2	—	3,303
	All home and office calls	11.7	42.6	25.6	15.3	3.6	1.0	0.2	—	—	—	3,303
	All laboratory services[a]	37.6	32.3	16.1	10.9	2.1	0.9	0.1	—	—	—	3,303
55–64	All services	9.9	19.6	15.6	22.0	11.3	11.8	5.4	2.9	1.3	0.3	5,020
	In-hospital services	61.0	16.6	5.6	6.4	2.7	4.4	1.8	1.1	0.3	0.1	5,020
	Out of hospital services	10.2	22.8	18.5	25.3	12.5	8.3	1.8	0.6	—	—	5,020
	All services except surgery and maternity	10.2	22.1	17.6	24.5	12.3	9.3	2.9	1.0	0.1	—	5,020
	All home and office calls	11.9	38.9	25.5	18.0	4.2	1.3	0.2	—	—	—	5,020
	All laboratory services[a]	36.0	31.1	17.5	11.8	2.7	0.8	—	—	—	—	5,020
65–74	All services	9.5	17.3	14.8	21.9	12.5	12.2	5.7	4.2	1.9	0.2	3,653
	In-hospital services	58.6	15.2	6.8	7.0	3.1	4.8	2.6	1.3	0.4	—	3,653
	Out of hospital services	10.1	21.1	18.1	26.0	11.7	9.8	2.4	0.7	0.2	—	3,653
	All services except surgery and maternity	9.9	20.0	16.5	25.4	12.3	10.6	3.2	1.4	0.6	—	3,653
	All home and office calls	11.6	34.7	27.4	18.7	5.1	2.2	0.2	—	—	—	3,653
	All laboratory services[a]	37.9	29.9	15.6	12.4	3.0	1.1	0.1	—	—	—	3,653

(a) Includes X-rays.

Source: Claims Records of Manitoba Medical Service, 1961.

TABLE 5–5

COUPLES WITH ONE CHILD, BY AGE OF FAMILY HEAD AND BY AMOUNT OF SELECTED ANNUAL MEDICAL EXPENSE, 1961

Age of Family Head	Class of Medical Expense	Per cent of Families with Annual Medical Expense of										
		$0	$0–$24	$25–$49	$50–$99	$100–$149	$150–$249	$250–$349	$350–$499	$500–$749	$750+	Total Number of Families
15–24	All services	3.0	14.3	16.7	19.7	22.0	17.3	5.2	1.4	0.3	0.1	776
	In-hospital services	37.0	16.1	6.2	17.3	16.5	5.3	1.0	0.4	0.1	0.1	776
	Out of hospital services	4.0	25.3	31.3	26.8	7.6	4.6	0.3	0.1	—	—	776
	All services except surgery and maternity	3.7	28.7	29.4	24.6	7.9	5.0	0.4	0.3	—	—	776
	All home and office calls	5.7	46.3	30.5	13.5	3.6	0.4	—	—	—	—	776
	All laboratory services[a]	47.3	36.6	10.3	5.3	0.4	0.1	—	—	—	—	776
25–34	All services	1.9	14.7	17.2	22.6	18.1	18.7	4.6	1.7	0.5	—	3,201
	In-hospital services	43.7	14.2	6.2	13.3	16.0	4.7	1.4	0.4	0.1	—	3,201
	Out of hospital services	2.3	23.9	29.3	29.5	9.3	5.1	0.4	0.1	0.1	—	3,201
	All services except surgery and maternity	2.4	25.8	28.0	27.6	9.5	5.7	0.7	0.2	0.1	—	3,201
	All home and office calls	3.9	43.9	31.8	16.8	2.8	0.7	0.1	—	—	—	3,201
	All laboratory services[a]	39.1	41.9	13.0	4.9	0.9	0.2	—	—	—	—	3,201
35–44	All services	3.9	19.5	17.0	24.1	14.6	13.2	4.8	2.2	0.5	0.2	2,357
	In-hospital services	54.3	18.0	7.2	9.8	4.5	4.3	1.4	0.4	0.1	—	2,357
	Out of hospital services	4.2	24.6	22.4	27.4	12.4	7.0	1.6	0.4	0.1	—	2,357
	All services except surgery and maternity	4.1	24.7	21.8	26.6	12.1	8.0	1.9	0.6	0.2	—	2,357
	All home and office calls	5.6	40.5	30.7	17.9	4.0	1.1	0.2	—	—	—	2,357
	All laboratory services[a]	35.2	35.8	16.1	10.2	1.8	0.8	0.1	—	—	—	2,357

45–54	All services	4.1	17.2	17.5	23.4	14.4	12.6	6.3	2.9	1.4	0.3	3,537
	In-hospital services	54.3	20.1	7.2	7.5	3.1	5.2	1.7	0.7	0.3	–	3,537
	Out of hospital services	4.3	20.7	22.1	25.8	14.1	9.7	2.4	0.7	0.2	–	3,537
	All services except surgery and maternity	4.3	20.3	21.2	25.4	13.9	10.6	2.9	1.0	0.3	–	3,537
	All home and office calls	5.8	38.2	28.6	20.6	4.5	2.0	0.3	–	–	–	3,537
	All laboratory services[a]	31.8	35.2	17.1	11.7	3.0	1.0	0.1	–	–	–	3,537
55–64	All services	4.3	16.5	16.2	24.0	12.0	14.1	6.7	4.4	1.5	0.3	1,378
	In-hospital services	53.4	19.2	6.7	7.3	3.8	5.1	3.2	0.7	0.4	0.1	1,378
	Out of hospital services	4.5	21.3	19.6	26.6	13.9	10.4	3.1	0.7	–	0.1	1,378
	All services except surgery and maternity	4.4	20.2	19.6	25.5	13.6	12.0	3.6	1.2	–	0.1	1,378
	All home and office calls	6.2	37.3	28.0	21.1	4.8	2.4	0.2	–	–	–	1,378
	All laboratory services[a]	29.9	34.8	18.0	13.3	3.0	0.9	0.1	–	–	–	1,378
65–74	All services	–	–	–	–	–	–	–	–	–	–	172
	In-hospital services	–	–	–	–	–	–	–	–	–	–	172
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	172
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	172
	All home and office calls	–	–	–	–	–	–	–	–	–	–	172
	All laboratory services[a]	–	–	–	–	–	–	–	–	–	–	172

(a) Includes X-rays.

Source: Claims Records of Manitoba Medical Service, 1961.

TABLE 5–6

COUPLES WITH 2 CHILDREN, BY AGE OF FAMILY HEAD AND BY AMOUNT OF SELECTED ANNUAL MEDICAL EXPENSE, 1961

Age of Family Head	Class of Medical Expense	Per cent of Families with Annual Medical Expense of										
		$0	$0–$24	$25–$49	$50–$99	$100–$149	$150–$249	$250–$349	$350–$499	$500–$749	$750+	Total Number of Families
15–24	All services	–	–	–	–	–	–	–	–	–	–	369
	In-hospital services	–	–	–	–	–	–	–	–	–	–	369
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	369
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	369
	All home and office calls	–	–	–	–	–	–	–	–	–	–	369
	All laboratory services[a]	–	–	–	–	–	–	–	–	–	–	369
25–34	All services	1.2	10.3	15.0	23.3	18.2	22.3	6.1	2.8	0.9	0.1	4,214
	In-hospital services	37.0	16.9	7.6	14.5	15.2	5.9	2.1	0.5	0.2	–	4,214
	Out of hospital services	1.4	17.0	25.5	34.1	13.9	6.5	1.1	0.4	–	–	4,214
	All services except surgery and maternity	1.4	17.5	25.3	32.3	14.0	7.5	1.4	0.7	–	–	4,214
	All home and office calls	2.0	31.2	33.6	26.2	5.1	1.7	0.3	–	–	–	4,214
	All laboratory services[a]	36.5	41.1	14.5	6.8	1.0	0.1	0.1	–	–	–	4,214
35–44	All services	1.7	14.2	17.0	25.9	15.6	15.0	6.5	3.0	0.9	0.1	4,928
	In-hospital services	48.9	19.7	8.8	9.2	5.9	5.2	1.5	0.5	0.2	0.1	4,928
	Out of hospital services	2.0	18.4	22.5	30.8	14.1	9.4	2.1	0.6	0.1	–	4,928
	All services except surgery and maternity	2.0	18.3	22.0	30.1	14.2	9.8	2.7	0.8	0.1	–	4,928
	All home and office calls	2.8	33.5	32.0	23.7	6.0	1.7	0.3	–	–	–	4,928
	All laboratory services[a]	32.2	38.3	16.6	10.5	2.8	0.6	0.1	–	–	–	4,928

45–54	All services	2.1	15.3	15.6	23.9	15.1	15.7	6.7	4.0	1.1	0.4	3,134
	In-hospital services	47.6	21.7	9.3	8.6	4.1	5.5	2.1	0.7	0.2	0.1	3,134
	Out of hospital services	2.3	19.1	20.5	27.8	15.8	10.7	2.9	0.9	0.1	–	3,134
	All services except surgery and maternity	2.2	18.6	19.8	27.5	15.6	11.6	3.1	1.5	0.1	–	3,134
	All home and office calls	3.9	34.7	28.7	24.0	5.9	2.7	0.1	–	–	–	3,134
	All laboratory services[a]	29.8	36.1	18.3	12.0	2.7	1.0	–	–	–	–	3,134
55–64	All services	2.8	15.3	17.7	22.4	12.8	13.9	7.8	5.0	2.2	0.2	541
	In-hospital services	44.5	23.1	10.9	7.0	4.1	6.5	2.6	1.3	–	–	541
	Out of hospital services	3.0	19.4	23.1	25.7	13.5	10.2	3.5	1.5	–	0.2	541
	All services except surgery and maternity	2.8	18.9	21.6	24.8	13.5	12.6	3.3	2.2	0.2	0.2	541
	All home and office calls	4.8	33.5	31.4	20.3	7.4	2.4	0.2	–	–	–	541
	All laboratory services[a]	32.7	34.0	16.8	10.9	3.5	2.0	–	–	–	–	541
65–74	All services	–	–	–	–	–	–	–	–	–	–	36
	In-hospital services	–	–	–	–	–	–	–	–	–	–	36
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	36
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	36
	All home and office calls	–	–	–	–	–	–	–	–	–	–	36
	All laboratory services[a]	–	–	–	–	–	–	–	–	–	–	36

(a) Includes X-rays.

Source: Claims Records of Manitoba Medical Service, 1961.

TABLE 5–7

COUPLES WITH 3 CHILDREN, BY AGE OF FAMILY HEAD AND BY AMOUNT OF SELECTED ANNUAL MEDICAL EXPENSE, 1961

Age of Family Head	Class of Medical Expense	Per cent of Families with Annual Medical Expense of										Total Number of Families
		$0	$0–24	$25–49	$50–$99	$100–$149	$150–$249	$250–349	$350–499	$500–749	$750+	
15–24	All services	–	–	–	–	–	–	–	–	–	–	67
	In-hospital services	–	–	–	–	–	–	–	–	–	–	67
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	67
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	67
	All home and office calls	–	–	–	–	–	–	–	–	–	–	67
	All laboratory services[a]	–	–	–	–	–	–	–	–	–	–	67
25–34	All services	0.7	8.5	11.3	20.7	18.9	25.2	9.2	4.2	1.1	0.2	2,476
	In-hospital services	29.0	16.0	8.6	16.6	18.3	8.1	2.3	0.7	0.3	0.1	2,476
	Out of hospital services	0.8	15.1	21.9	35.6	15.6	18.8	1.5	0.4	0.2	0.1	2,476
	All services except surgery and maternity	0.8	15.6	22.0	32.6	16.0	10.1	2.0	0.6	0.2	0.1	2,476
	All home and office calls	1.2	27.8	32.9	28.9	6.6	2.2	0.4	–	–	–	2,476
	All laboratory services[a]	35.1	41.9	13.9	7.5	1.1	0.4	0.1	–	–	–	2,476
35–44	All services	1.8	10.7	14.8	24.4	16.4	18.3	7.9	4.1	1.3	0.3	3,792
	In-hospital Services	39.1	20.9	10.5	11.9	8.2	5.9	2.2	1.1	0.2	–	3.792
	Out of hospital services	1.9	15.2	22.6	30.8	15.1	11.0	2.7	0.6	0.1	—	3,792
	All services except surgery and maternity	1.9	14.8	22.1	30.0	15.2	11.9	3.1	0.9	0.1	–	3,792
	All home and office calls	2.4	29.8	31.6	26.2	6.9	2.8	0.3	–	–	–	3,792
	All laboratory services[a]	31.2	38.6	17.0	10.6	2.0	0.5	0.1	–	–	–	3,792

45–54	All services	2.8	10.5	13.7	25.0	17.0	16.1	8.0	4.8	1.8	0.3	1,516
	In-hospital services	41.5	21.2	10.6	11.1	6.3	5.5	2.5	0.8	0.4	0.1	1,516
	Out of hospital services	3.0	14.0	20.6	30.1	16.6	11.2	3.2	1.1	0.2	–	1,516
	All services except surgery and maternity	2.9	13.6	19.7	29.6	16.8	11.7	3.8	1.3	0.6	–	1,516
	All home and office calls	3.5	27.7	33.1	25.1	7.0	3.2	0.4	–	–	–	1,516
	All laboratory services[a]....	28.8	37.2	17.7	12.0	3.0	1.0	0.3	–	–	–	1,516
55–64	All services	–	–	–	–	–	–	–	–	–	–	203
	In-hospital services	–	–	–	–	–	–	–	–	–	–	203
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	203
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	203
	All home and office calls	–	–	–	–	–	–	–	–	–	–	203
	All laboratory services[a]....	–	–	–	–	–	–	–	–	–	–	203
65–74	All services	–	–	–	–	–	–	–	–	–	–	14
	In-hospital services	–	–	–	–	–	–	–	–	–	–	14
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	14
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	14
	All home and office calls	–	–	–	–	–	–	–	–	–	–	14
	All laboratory services[a]....	–	–	–	–	–	–	–	–	–	–	14

(a) Includes X-rays.

Source: Claims Records of Manitoba Medical Service, 1961.

TABLE 5–8

COUPLES WITH 4 CHILDREN, BY AGE OF FAMILY HEAD AND BY AMOUNT OF SELECTED ANNUAL MEDICAL EXPENSE, 1961

Age of Family Head	Class of Medical Expense	Per cent of Families with Annual Medical Expense of										Total Number of Families
		$0	$0–24	$25–49	$50–99	$100–149	$150–249	$250–349	$350–499	$500–749	$750+	
15–24	All services	–	–	–	–	–	–	–	–	–	–	16
	In-hospital services	–	–	–	–	–	–	–	–	–	–	16
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	16
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	16
	All home and office calls ...	–	–	–	–	–	–	–	–	–	–	16
	All laboratory services[a]...	–	–	–	–	–	–	–	–	–	–	16
25–34	All services	0.7	7.0	8.8	18.5	18.7	25.6	13.0	6.4	1.2	0.1	957
	In-hospital services	21.8	13.9	9.6	20.5	18.9	11.5	2.6	1.1	0.1	–	957
	Out of hospital services	0.7	14.2	21.8	33.1	15.3	11.6	2.5	0.8	–	–	957
	All services except surgery and maternity	0.7	13.1	22.4	31.7	14.7	13.0	3.4	1.0	–	–	957
	All home and office calls ...	1.4	25.5	30.3	30.6	8.3	3.4	0.5	–	–	–	957
	All laboratory services[a]...	33.3	42.7	14.5	7.8	1.1	0.6	–	–	–	–	957
35–44	All services	1.1	8.7	13.3	23.1	17.8	20.1	8.7	5.0	1.9	0.3	1,923
	In-hospital services	33.8	20.4	9.4	13.7	10.6	8.3	2.0	1.2	0.6	–	1,923
	Out of hospital services	1.2	13.8	21.2	33.7	16.3	10.2	2.8	0.6	0.2	–	1,923
	All services except surgery and maternity	1.1	13.1	21.1	31.8	17.1	11.4	3.1	1.1	0.2	–	1,923
	All home and office calls ...	1.9	26.6	33.4	27.5	7.5	2.7	0.4	–	–	–	1,923
	All laboratory services[a]...	30.7	39.8	17.7	9.4	1.7	0.7	–	–	–	–	1,923

45–54	All services	2.7	10.2	16.5	20.8	16.1	17.6	9.2	5.0	1.6	0.3	677
	In-hospital services	39.6	20.5	9.6	11.2	7.1	8.6	2.5	0.7	0.1	0.1	677
	Out of hospital services	3.2	15.4	21.4	27.4	16.4	11.8	3.8	0.6	–	–	677
	All services except surgery and maternity	3.2	14.0	21.2	27.0	17.0	11.8	4.3	1.0	0.5	–	677
	All home and office calls ...	3.7	28.8	31.2	26.7	5.6	3.7	0.3	–	–	–	677
	All laboratory services[a]...	32.1	36.6	14.8	13.3	2.7	0.4	0.1	–	–	–	677
55–64	All services	–	–	–	–	–	–	–	–	–	–	70
	In-hospital services	–	–	–	–	–	–	–	–	–	–	70
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	70
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	70
	All home and office calls ...	–	–	–	–	–	–	–	–	–	–	70
	All laboratory services[a]...	–	–	–	–	–	–	–	–	–	–	70
65–74	All services	–	–	–	–	–	–	–	–	–	–	6
	In-hospital services	–	–	–	–	–	–	–	–	–	–	6
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	6
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	6
	All home and office calls ...	–	–	–	–	–	–	–	–	–	–	6
	All laboratory services[a]...	–	–	–	–	–	–	–	–	–	–	6

(a) Includes X-rays.

Source: Claims Records of Manitoba Medical Service, 1961.

TABLE 5–9

COUPLES WITH 5 CHILDREN, BY AGE OF FAMILY HEAD AND BY AMOUNT OF SELECTED ANNUAL MEDICAL EXPENSE, 1961

Age of Family Head	Class of Medical Expense	Per cent of Families with Annual Medical Expense of										Total Number of Families
		$0	$0–$24	$25–$49	$50–$99	$100–$149	$150–$249	$250–$349	$350–$499	$500–$749	$750+	
15–24	All services	–	–	–	–	–	–	–	–	–	–	2
	In-hospital services	–	–	–	–	–	–	–	–	–	–	2
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	2
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	2
	All home and office calls	–	–	–	–	–	–	–	–	–	–	2
	All laboratory services[a]	–	–	–	–	–	–	–	–	–	–	2
25–34	All services	–	–	–	–	–	–	–	–	–	–	299
	In-hospital services	–	–	–	–	–	–	–	–	–	–	299
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	299
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	299
	All home and office calls	–	–	–	–	–	–	–	–	–	–	299
	All laboratory services[a]	–	–	–	–	–	–	–	–	–	–	299
35–44	All services	1.1	9.2	12.9	20.3	16.6	21.2	10.0	6.0	2.3	0.4	767
	In-hospital services	30.8	18.2	8.3	15.9	14.3	6.6	3.8	1.7	0.4	–	767
	Out of hospital services	1.2	14.0	21.3	32.3	15.4	12.2	2.9	0.6	0.1	–	767
	All services except surgery and maternity	1.2	13.3	21.1	30.6	15.1	14.2	3.0	1.2	0.3	–	767
	All home and office calls	2.1	26.3	30.6	27.9	9.4	3.4	0.3	–	–	–	767
	All laboratory services[a]	33.0	41.0	15.3	8.0	1.7	0.9	0.1	–	–	–	767

45–54	All services.....	–	–	–	–	–	–	–	–	–	–	265
	In-hospital services	–	–	–	–	–	–	–	–	–	–	265
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	265
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	265
	All home and office calls	–	–	–	–	–	–	–	–	–	–	265
	All laboratory services[a]	–	–	–	–	–	–	–	–	–	–	265
55–64	All services	–	–	–	–	–	–	–	–	–	–	29
	In-hospital services	–	–	–	–	–	–	–	–	–	–	29
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	29
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	29
	All home and office calls	–	–	–	–	–	–	–	–	–	–	29
	All laboratory services[a]	–	–	–	–	–	–	–	–	–	–	29
65–74	All services	–	–	–	–	–	–	–	–	–	–	1
	In-hospital services	–	–	–	–	–	–	–	–	–	–	1
	Out of hospital services	–	–	–	–	–	–	–	–	–	–	1
	All services except surgery and maternity	–	–	–	–	–	–	–	–	–	–	1
	All home and office calls	–	–	–	–	–	–	–	–	–	–	1
	All laboratory services[a]	–	–	–	–	–	–	–	–	–	–	1

(a) Includes X-rays.

Source: Claims Records of Manitoba Medical Service, 1961.

Although this percentage is low, it is precisely in these high expense categories that the impact of insurance or prepayment is greatest. The fact that relatively few families are involved supports, rather than destroys, the applicability of insurance to medical care. Few houses burn in comparison with those that do not. Few persons have enormous medical bills. Some however do. Similarly, some houses burn. The difference, apparent in these tables, is that most people have some medical expense, and only about 12 per cent on the average fail to have any claims at all in any 12-month period.[1]

The less complete categories of coverage show correspondingly lesser amounts of medical expense. The expected higher variance among families in terms of in-hospital services is also apparent. Concentration for this latter class is heavily in the zero expense category and somewhat greater, on the average, at the upper end of the scale. On the other hand, out-of-hospital expense, although more evenly divided within the population than in-hospital expense, can, and with suprising regularity does, produce total costs that are far from small in terms of either total medical expense or in-hospital expense. Although infrequent, out-of-hospital expense of more than $749 per year does occur, and expense totals of from $500 to $749 appear almost as frequently as with in-hospital services. Although in-hospital costs are clearly subject to greater variance, the risk of high medical expense ($500 and over) is not avoided by a prepayment or insurance contract providing coverage only for in-hospital services.[2]

This same conclusion applies to surgical or maternity services. Excluding these generally major items does not prevent the occurrence of large annual expense. A surgical contract with maternity benefits is in effect a limited form of an in-hospital contract. As such, it fails for the same reasons to eliminate the risk of high expense from other medical services.[3]

In the processing of home and office calls, and of X–ray and laboratory services, all households with expenses of more than $249 were lumped together. The indication that there were no households with home and office call or X–ray, and laboratory expense exceeding $349 is, therefore, not necessarily correct. On the other hand, the very low percentages in the $250–349 class suggest that $350 is close to peak expense for these services. It is, however, by no means rare to find households with more than $100 of annual expense from this source. In particular, a limitation of $35 on X–ray and laboratory expense, common in voluntary contracts, would be applicable, judging from the expense of single men

[1] Tables 5–2 to 5–9 also permit the interested reader to trace out the impact of major medical contracts or deductibles. Under the comprehensive Manitoba prepayment plan, roughly 12 per cent of all families were reported to have filed no claims in 1961. A deductible of $50 per contract would increase this percentage, for example, in the case of a childless couple in the 25–34 age bracket, from 13 to 64 per cent. The obvious saving of the major medical contract from an insurance viewpoint is very much apparent in these arrays.

[2] The definition of in-hospital services is liberal and the tables presented here, if anything, understate the impact of the cost of out-of-hospital services. See footnote 3, p. 74.

[3] All surgery whether in- or out-of-hospital was considered an in-hospital benefit in the construction of Tables 5–2 to 5–9. Some of this surgery in fact was performed out-of-hospital. See footnote 3, p. 74.

and women, in at least 5 per cent of the contracts held. Given the distribution of expense from this source, this limitation appears to be not only an illogical but also an ineffective way of limiting the cost of insured services.[1]

The distribution of home and office call expense is different. This distribution tends more to be "two-tailed" -- the likelihood is high that a family will have some expense. Once again, the question of the desirability of coverage is one of judgment regarding the level of risk that can readily be borne by individual families.[2] The administrative and operational cost of insuring home and office calls is high. Claims are frequent and small. Few families do not file at least some claims. On the other hand, substantial expense is possible and may well be associated in timing with other related expense, particularly drug costs. Whatever the inference from these distributions, the popularity of comprehensive rather than limited prepayment contracts suggests that the prepayment of these services is not without significant appeal.

LONG-RANGE MEDICAL EXPENSE

The foregoing has been concerned with annual expense. A single year, however, is a short period in the lifetime of most individuals or families, and a high variance in annual expense could be consistent either with highly varied five-year or lifetime expenditure patterns, or with lifetime expenditure totals that vary relatively little from family to family. This will depend on whether medical costs or needs tend to be independent within any family from year to year, or whether the level of expenditure this year is a factor affecting that family's probability of expense in future years. This, in turn, is a question of the degree to which medical needs tend to be chronic, preventive, or random.

If most medical care were preventive, the presence of medical expense today would reduce the probability of medical expense tomorrow. Preventive medical care is analogous to many other commodities. The purchase of clothing today generally lowers the probability of a similar purchase tomorrow. The need or want stimulating the initial purchase has been alleviated by the purchase itself. Similarly, the purchase of a smallpox innoculation this year makes a similar purchase next year unlikely. The injection is preventive; once administered, the need for another is removed for a period of time extending beyond one year.

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[1] The frequency of claims is high in the low expense categories. For example, of each 100 single women aged 15–24, 23.8 incurred some expense of less than $25. Assuming an average cost of $10 per person, this would represent a total cost of $238. Note that 68 per cent incurred zero expense. Similarly, 5.2 per cent had claims totalling from $25 to $49, implying, at $35 per person, an additional cost of $182. The total cost per 100 individuals for women with claims of less than $50 would therefore be $420. Assuming an average cost of $60 for the 1.8 per cent of these women with expenses of from $50 to $99, and of $120 for the 0.4 per cent with claims totalling $100 to $149, the corresponding total for women with claims of more than $50 is only $156. Hence the claims cost of a contract with a deductible of $50 on these services would be less than half that of a contract paying claims up to a per capita total of $50. In addition, far fewer claims would be involved with the former type of contract. From the standpoint of the individual involved, elimination of the risk of costs of more than $50 would appear to be more desirable than elimination of costs only up to that maximum.

[2] This is not the only justification for coverage. See Chapter 7.

This, however, is not true of the bulk of medical purchases. The concept is especially inapplicable to most major medical expenditures. It is probable that the expectation of future expenditures is increased, not diminished, by the fact that expenditure is high in the present period. This is certainly true of day-to-day experience. The fact that a family "buys" a physician's hospital call today significantly increases the probability that this family will "buy" a hospital call tomorrow. The purchase of hospital calls is serially correlated, just as the incidence of illness does not occur randomly on a day-to-day basis. Periods of illness are interspersed with periods of health.

There are two aspects to this, however. The first depends on whether a year is a long period of time relative to the duration of any single illness. If it is, the "carry-over" effect of any given illness, though present from day to day, would be far less apparent from year to year, and it is with yearly data that this chapter is concerned. But individual periods of illness can be interdependent. An example is a chronic heart ailment, which becomes acute only sporadically. Various allergy conditions might fit this same mould. At the extreme, some persons, by genetic makeup or early environment, may have been rendered sickness-prone by comparison with other persons in the population generally. Whatever the explanation, the empirical implication of interdependence would, of course, be lifetime distributions of medical expense within the population that show greater variance than would be expected on the assumption that individual medical needs occur randomly over time and the risk associated with the costs of medical care would be correspondingly greater.

But even where future expectations are random, or independent of present or prior experience, this does not destroy the motive for, or desirability of, insurance or prepayment coverage. It does suggest, however, that over longer time periods individual experience will even out, that insured individuals can be expected to incur total medical costs that are substantially less varied. In this case the function of insurance is more to remove the risk of large medical expense in any given year, and less to provide against the contingency of a lifetime of adverse experience. The probability of adverse lifetime experience would still be finite, but much less than the probability of the same degree of adversity were current annual experience a reliable predictor of the future experience of individual families.

The following data provide a preliminary insight to the distribution of family medical expense over longer periods of time.

Medical Expense Over Eight Years

In March of 1962, Physicians' Services Incorporated, released to the Royal Commission on Health Services the records of 511 "Blue Plan" contracts that had been in effect since January, 1954. These contracts were a random sample of an estimated 17,000 contracts in force between 1953 and 1962.[1] The experience of these 511 contracts illustrates the distinction between the distribution of annual

[1] All contracts with contract identification numbers ending in 26, 76, and 96, effective in 1953, were selected.

family expense on the one hand, and of average annual family expense on the other.

The Blue Plan is P.S.I.'s comprehensive contract. In 1961, this contract provided all necessary general practitioner services, referred and approved specialist care, refractions, and X–ray services to a maximum of $50 in any 12–month period. Operations or treatment for cosmetic purposes were not covered. Extra billing by specialist physicians was permitted in all instances, and by general practitioners if the income of a subscriber with dependents exceeded $10,000. Although more limited than the corresponding Manitoba Medical Services Plan HCX, the P.S.I. Blue Plan was nevertheless a comprehensive medical prepayment contract.[1]

The experience of these 511 contracts over the eight-year period 1954 to 1961 is arrayed in Tables 5–10 through 5–17. These tables classify agreements according to the number of persons covered at the beginning of the eight-year period, and show distributions of expense separately for all eligible Blue Plan medical services and for all home, office and night calls.[2]

In each of the tables, distributions are shown for each individual year, for the total of this annual experience, and for the average yearly expense of each contract for the full eight-year period. Thus, for example, the first upper left hand entry in Table 5–10 indicates that in 1954, 132 of 183 contracts (72.2 per cent) initially covering one person showed a total annual cost for all eligible P.S.I. services of less than $25. When eight years of annual experience is totalled, as in the second last row of Table 5–10, 772 of 1464 observations of annual experience (52.7 per cent) for these same 183 contracts showed expense of less than $25.[3] In contrast, if the eight-year period is considered as a whole, and if

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[1] In reply to formal inquiry regarding changes in this contract during the eight-year period under consideration here, Mr. C.A. Bond of P.S.I. replied in March 1962 as follows:

"There has been little change in the benefits of the 'Blue Plan' since 1953. The Blue Cross Plan had included in-hospital diagnostic X-rays and radiotherapy as a benefit of their agreement and we, therefore, always applied our subrogation clause against claims submitted to us for these benefits if it was known the subscriber had Blue Cross coverage. When the Ontario Hospital Services Commission commenced at January 1st, 1959, we had to eliminate the above benefits from our agreement, but because of our practice of involving our subrogation clause, this change...did not affect the medical costs to any great extent."

"There naturally has been an increase in the fee schedule over the past eight years but neither this nor any other minor change has materially altered the subscriber's agreement or the benefits available to him or his dependents."

Mr. Bond estimates that more than 90 per cent of "Blue Plan" subscribers did, in fact, have Blue Cross hospitalization coverage prior to the establishment of the Ontario Hospital Services Commission.

[2] Tabulation of these P.S.I. accounts was by hand from photostats of microfilm records. In many instances these records showed a single total for several services. In the absence of individual accounts, office calls were valued at $3.00 and home and night calls at $5.00. These were the average fees for these services.

[3] This decline from 72.2 to 52.7 per cent reflects growth in the number of persons covered by these contracts. The 183 contracts initially covering one person covered 448 people by the end of the eight-year period. For some purposes, therefore, the separation of contracts according to the number of persons initially covered is artificial. On the other hand, the tables can be viewed as a forecast of experience of an eight-year period for each contract type. Substantial change in the number of persons covered was present throughout the period. The 511 contracts initially covered 1,275 people; eight years later they covered 1,661.

expense is totalled for the full eight years and a yearly average calculated, only 30.6 per cent of the 183 contracts showed average annual expense for all services of less than $25. This is indicated by the bottom row of Table 5–10.

Tables 5–11 and 5–12 contain, respectively, corresponding distributions for contracts initially covering two people, and for contracts covering three or more people. Table 5–13 arrays expense for all P.S.I. services for the entire 511 contracts considered. Tables 5–14 through 5–17 are analogous for expense from home, office and night calls.

The intended comparison in each of these tables is between the bottom two rows. The second last row contains a distribution of actual annual experience; the bottom row provides a corresponding distribution of *average* annual expense for the eight-year period. The lesser dispersion of the latter illustrates the evening-out of experience of families when a longer period of time forms the basis for comparison. Had this evening-out process been complete, the bottom row in each table would show all contracts with identical annual expense.[1]

For all contracts combined, and for all eligible Blue Plan services, annual family expense exceeded $350 in about 2 per cent of these cases. In contrast, only one contract out of 511 showed expense over the eight-year period averaging more than $350 a year. All but six of 511 averaged less than $250. Median average expense for these contracts was between $50 and $99. Although chronic effects must be present in the need for medical care, those effects do not destroy a very noticeable tendency, even when contracts covering very different types of families are indiscriminately lumped together, for average experience of families to even out over time. With better standardization in the P.S.I. data, this effect would be even more pronounced.

Nevertheless, and as noted earlier, the data do not suggest that the value of medical insurance or prepayment protection lies solely in safeguarding families against sudden and once and for all high expense in individual years. The probability of average annual medical expense of, for example, as much as $350 is not zero, and the significance of expense of this order is far greater when continued over a period of time than if it were an isolated occurrence. Average experience is less dispersed than annual experience, but the data continue to display a significant variation among families even over the eight-year period.

[1] Because of changes in number of persons covered by these contracts, part of the dispersion remaining in the tables can be considered to reflect the differential expenses of different types of families. This is an inherent short coming of the small P.S.I. sample.

TABLE 5–10

NUMBER AND PERCENTAGE OF CONTRACTS WITH INDICATED ANNUAL AMOUNTS OF MEDICAL EXPENSE FOR ALL P.S.I. BLUE PLAN SERVICES, CONTRACTS INITIALLY COVERING ONE PERSON, 1954–1961

Year		$0–24	$25–49	$50–99	$100–149	$150–249	$250–349	$350–499	$500–749	$750+	Total
1954	Number	132	28	13	4	4	1	1			183
	Per Cent	72.2	15.3	7.1	2.2	2.2	0.5	0.5			100
1955	Number	125	27	18	5	6	2				183
	Per Cent	68.3	14.8	9.8	2.7	3.3	1.1				100
1956	Number	99	33	28	19	4					183
	Per Cent	54.1	18.0	15.3	10.4	2.2					100
1957	Number	101	28	26	15	8	4	1			183
	Per Cent	55.2	15.3	14.2	8.2	4.4	2.2	0.5			100
1958	Number	92	27	26	16	10	11	1			183
	Per Cent	50.3	14.8	14.2	8.7	5.5	6.0	0.5			100
1959	Number	82	35	19	15	22	5	4	1		183
	Per Cent	44.9	19.1	10.4	8.2	12.0	2.7	2.2	0.5		100
1960	Number	74	24	26	25	27	6	1			183
	Per Cent	40.4	13.1	14.2	13.7	14.8	3.3	0.5			100
1961	Number	67	29	32	20	23	7	5			183
	Per Cent	36.7	15.8	17.5	10.9	12.6	3.8	2.7			100
Total	Number	772	231	188	119	104	36	13	1		1,464
	Per Cent	52.7	15.8	12.8	8.1	7.1	2.5	0.9	0.1		100
Average Annual Expense per Contract 1954–1961	Number	56	44	53	23	7					183
	Per Cent	30.6	24.0	29.0	12.6	3.8					100

Source: Physicians' Services Incorporated.

TABLE 5–11

NUMBER AND PERCENTAGE OF CONTRACTS WITH INDICATED ANNUAL AMOUNTS OF MEDICAL EXPENSE FOR ALL P.S.I. BLUE PLAN SERVICES, CONTRACTS INITIALLY COVERING TWO PERSONS, 1954–1961

Year		$0–24	$25–49	$50–99	$100–149	$150–249	$250–349	$350–499	$500–749	$750+	Total
1954	Number	57	29	26	10	7	3	2			134
	Per Cent	42.5	21.6	19.4	7.5	5.2	2.2	1.5			100
1955	Number	49	23	35	9	14	2		2		134
	Per Cent	36.6	17.2	26.1	6.7	10.4	1.5		1.5		100
1956	Number	40	26	37	17	10	3			1	134
	Per Cent	29.9	19.4	27.6	12.7	7.5	2.2			0.7	100
1957	Number	49	18	25	17	17	5	3			134
	Per Cent	36.6	13.4	18.7	12.7	12.7	3.7	2.2			100
1958	Number	37	27	37	16	10	3	4			134
	Per Cent	27.6	20.2	27.6	11.9	7.5	2.2	3.0			100
1959	Number	45	16	34	19	11	3	4	2		134
	Per Cent	33.6	11.9	25.4	14.2	8.2	2.2	3.0	1.5		100
1960	Number	45	20	25	16	20	5	1	2		134
	Per Cent	33.7	14.9	18.7	11.9	14.9	3.7	0.7	1.5		100
1961	Number	34	37	30	15	5	6	6	1		134
	Per Cent	25.4	27.6	22.4	11.2	3.7	4.5	4.5	0.7		100
Total	Number	356	196	249	119	94	30	20	7	1	1,072
	Per Cent	33.2	18.3	23.2	11.1	8.8	2.8	1.9	0.6	0.1	100
Average Annual Expense per Contract 1954–1961	Number	22	20	57	18	16		1			134
	Per Cent	16.4	14.9	42.5	13.4	11.9		0.7			100

Source: Physicians' Services Incorporated.

TABLE 5–12

NUMBER AND PERCENTAGE OF CONTRACTS WITH INDICATED ANNUAL AMOUNTS OF MEDICAL EXPENSE FOR ALL P.S.I. BLUE PLAN SERVICES, CONTRACTS INITIALLY COVERING THREE OR MORE PERSONS, 1954–1961

Year		$0–24	$25–49	$50–99	$100–149	$150–249	$250–349	$350–499	$500–749	$750+	Total
1954	Number	44	40	38	35	26	7	4			194
	Per Cent	22.7	20.6	19.6	18.0	13.4	3.6	2.1			100
1955	Number	47	24	50	35	25	6	7			194
	Per Cent	24.2	12.4	25.8	18.0	12.9	3.1	3.6			100
1956	Number	31	30	52	29	35	9	7	1		194
	Per Cent	16.0	15.5	26.8	15.0	18.0	4.6	3.6	0.5		100
1957	Number	33	41	47	30	25	14	3	1		194
	Per Cent	17.0	21.1	24.3	15.5	12.9	7.2	1.5	0.5		100
1958	Number	36	27	49	33	34	11	3	1		194
	Per Cent	18.6	13.9	25.3	17.0	17.5	5.7	1.5	0.5		100
1959	Number	32	39	41	38	29	11	4			194
	Per Cent	16.5	20.1	21.0	19.6	15.0	5.7	2.1			100
1960	Number	37	29	53	24	35	8	7	1		194
	Per Cent	19.1	15.0	27.3	12.4	18.0	4.1	3.6	0.5		100
1961	Number	39	30	53	32	22	16	1	1		194
	Per Cent	20.1	15.5	27.3	16.5	11.3	8.3	0.5	0.5		100
Total	Number	299	260	383	256	231	82	36	5		1,552
	Per Cent	19.3	16.8	24.6	16.5	14.9	5.3	2.3	0.3		100
Average Annual Expense per Contract 1954–1961	Number	10	32	64	54	29	5				194
	Per Cent	5.2	16.5	33.0	27.8	14.9	2.6				100

Source: Physicians' Services Incorporated.

TABLE 5–13

NUMBER AND PERCENTAGE OF CONTRACTS WITH INDICATED ANNUAL AMOUNTS OF MEDICAL EXPENSE FOR ALL P.S.I. BLUE PLAN SERVICES, ALL CONTRACTS, 1954–1961

Year		$0–24	$25–49	$50–99	$100–149	$150–249	$250–349	$350–499	$500–749	$750+	Total
1954	Number	233	97	77	49	37	11	7			511
	Per Cent	45.5	19.0	15.1	9.6	7.2	2.2	1.4			100
1955	Number	221	74	103	49	45	10	7	2		511
	Per Cent	43.1	14.5	20.2	9.6	8.8	2.0	1.4	0.4		100
1956	Number	170	89	117	65	49	12	7	1	1	511
	Per Cent	33.3	17.4	22.9	12.7	9.6	2.3	1.4	0.2	0.2	100
1957	Number	183	87	98	62	50	23	7	1		511
	Per Cent	35.8	17.0	19.2	12.1	9.8	4.5	1.4	0.2		100
1958	Number	165	81	112	65	54	25	8	1		511
	Per Cent	32.3	15.8	21.9	12.7	10.6	4.9	1.6	0.2		100
1959	Number	159	90	94	72	62	19	12	3		511
	Per Cent	31.2	17.6	18.4	14.1	12.1	3.7	2.3	0.6		100
1960	Number	156	73	104	65	82	19	9	3		511
	Per Cent	30.5	14.3	20.4	12.7	16.0	3.7	1.8	0.6		100
1961	Number	140	96	115	67	50	29	12	2		511
	Per Cent	27.4	18.8	22.5	13.1	9.8	5.7	2.3	0.4		100
Total	Number	1,427	687	820	494	429	148	69	13	1	4,088
	Per Cent	34.9	16.8	20.1	12.1	10.5	3.6	1.7	0.3	–	100
Average Annual Expense per Contract 1954–1961	Number	88	96	174	95	52	5	1			511
	Per Cent	17.6	18.8	34.1	18.6	10.2	1.0	0.2			100

Source: Physicians' Services Incorporated.

TABLE 5–14

NUMBER AND PERCENTAGE OF CONTRACTS WITH INDICATED ANNUAL AMOUNTS OF MEDICAL EXPENSE FOR ALL P.S.I. HOME, NIGHT AND OFFICE CALLS, CONTRACTS INITIALLY COVERING ONE PERSON, 1954–1961

Year		$0–24	$25–49	$50–99	$100–149	$150–249	$250–349	$350–499	$500–749	$750+	Total
1954	Number	159	21	2	1						183
	Per Cent	86.9	11.5	1.1	0.5						100
1955	Number	154	25	4							183
	Per Cent	84.1	13.7	2.2							100
1956	Number	155	20	8							183
	Per Cent	84.7	10.9	4.4							100
1957	Number	134	38	9	2						183
	Per Cent	73.2	20.8	4.9	1.1						100
1958	Number	129	30	19	4	1					183
	Per Cent	70.5	16.4	10.4	2.2	0.5					100
1959	Number	121	37	21	2	1	1				183
	Per Cent	66.2	20.2	11.5	1.1	0.5	0.5				100
1960	Number	109	35	30	6	3					183
	Per Cent	59.6	19.1	16.4	3.3	1.6					100
1961	Number	101	39	32	8	3					183
	Per Cent	55.2	21.3	17.5	4.4	1.6					100
Total	Number	1,062	245	125	23	8	1				1,464
	Per Cent	72.6	16.7	8.5	1.6	0.5	0.1				100
Average Annual Expense per Contract 1954–1961	Number	129	38	15	1						183
	Per Cent	70.5	20.8	8.2	0.5						100

Source: Physicians' Services Incorporated.

TABLE 5–15

NUMBER AND PERCENTAGE OF CONTRACTS WITH INDICATED ANNUAL AMOUNTS OF MEDICAL EXPENSE FOR ALL P.S.I. HOME, NIGHT AND OFFICE CALLS, CONTRACTS INITIALLY COVERING TWO PERSONS, 1954–1961

Year		$0–24	$25–49	$50–99	$100–149	$150–249	$250–349	$350–499	$500–749	$750+	Total
1954	Number	92	31	10	1						134
	Per Cent	68.7	23.1	7.5	0.7						100
1955	Number	85	25	22	2						134
	Per Cent	63.4	18.7	16.4	1.5						100
1956	Number	77	34	20	2	1					134
	Per Cent	57.5	25.4	14.9	1.5	0.7					100
1957	Number	80	29	17	4	4					134
	Per Cent	59.7	21.6	12.7	3.0	3.0					100
1958	Number	73	31	21	5	3	1				134
	Per Cent	54.6	23.1	15.7	3.7	2.2	0.7				100
1959	Number	72	31	26	2	2	1				134
	Per Cent	53.8	23.1	19.4	1.5	1.5	0.7				100
1960	Number	63	38	21	9		2	1			134
	Per Cent	47.0	28.4	15.7	6.7		1.5	0.7			100
1961	Number	59	42	22	8	1	2				134
	Per Cent	44.1	31.3	16.4	6.0	0.7	1.5				100
Total	Number	601	261	159	33	11	6	1			1,072
	Per Cent	56.1	24.3	14.8	3.1	1.0	0.6	0.1			100
Average Annual Expense per Contract 1954–1961	Number	65	45	20	2	2					134
	Per Cent	48.5	33.6	14.9	1.5	1.5					100

Source: Physicians' Services Incorporated.

TABLE 5–16

NUMBER AND PERCENTAGE OF CONTRACTS WITH INDICATED ANNUAL AMOUNTS OF MEDICAL EXPENSE FOR ALL P.S.I. HOME, NIGHT AND OFFICE CALLS, CONTRACTS INITIALLY COVERING THREE OR MORE PERSONS, 1954–1961

Year		$0–24	$25–49	$50–99	$100–149	$150–249	$250–349	$350–499	$500–749	$750+	Total
1954	Number	93	49	48	4						194
	Per Cent	47.9	25.3	24.7	2.1						100
1955	Number	77	59	41	14	3					194
	Per Cent	39.8	30.4	21.1	7.2	1.5					100
1956	Number	70	59	51	13	1					194
	Per Cent	36.1	30.4	26.3	6.7	0.5					100
1957	Number	71	63	48	8	4					194
	Per Cent	36.6	32.5	24.7	4.1	2.1					100
1958	Number	73	49	58	10	4					194
	Per Cent	37.6	25.3	29.8	5.2	2.1					100
1959	Number	70	63	44	14	3					194
	Per Cent	36.1	32.5	22.7	7.2	1.5					100
1960	Number	68	66	47	9	3		1			194
	Per Cent	35.1	34.0	24.2	4.7	1.5		0.5			100
1961	Number	73	62	46	11	2					194
	Per Cent	37.6	32.0	23.7	5.7	1.0					100
Total	Number	595	470	383	83	20		1			1,552
	Per Cent	38.3	30.3	24.7	5.3	1.3		0.1			100
Average Annual Expense per Contract 1954–1961	Number	55	81	50	8						194
	Per Cent	28.4	41.8	25.8	4.1						100

Source: Physicians' Services Incorporated.

TABLE 5–17

NUMBER AND PERCENTAGE OF CONTRACTS WITH INDICATED ANNUAL AMOUNTS OF MEDICAL EXPENSE FOR ALL P.S.I. HOME, NIGHT AND OFFICE CALLS, ALL CONTRACTS, 1954–1961

Year		$0–24	$25–49	$50–99	$100–149	$150–249	$250–349	$350–499	$500–749	$750+	Total
1954	Number	344	101	60	6						511
	Per Cent	67.3	19.8	11.7	1.2						100
1955	Number	316	109	67	16	3					511
	Per Cent	61.9	21.3	13.1	3.1	0.6					100
1956	Number	302	113	79	15	2					511
	Per Cent	59.1	22.1	15.5	2.9	0.4					100
1957	Number	285	130	74	14	8					511
	Per Cent	55.8	25.4	14.5	2.7	1.6					100
1958	Number	275	110	98	19	8	1				511
	Per Cent	53.8	21.5	19.2	3.7	1.6	0.2				100
1959	Number	263	131	91	18	6	2				511
	Per Cent	51.5	25.6	17.8	3.5	1.2	0.4				100
1960	Number	240	139	98	24	6	2	2			511
	Per Cent	47.0	27.2	19.1	4.7	1.2	0.4	0.4			100
1961	Number	233	143	100	27	6	2				511
	Per Cent	45.5	28.0	19.6	5.3	1.2	0.4				100
Total	Number	2,258	976	667	139	39	7	2			4,088
	Per Cent	55.2	23.9	16.3	3.4	1.0	0.2	0.0			100
Average Annual Expense per Contract 1954–1961	Number	249	164	85	11	2					511
	Per Cent	48.7	32.0	16.6	2.2	0.4					100

Source: Physicians' Services Incorporated.

Isolation of expense due to home, office and night calls is of interest both because of the very large component of total medical expense attributable to these services, and because these services are those that would be expected to be most evenly distributed among families.[1] Table 5–17 shows less of an averaging effect, when the full eight years are considered, than does Table 5–13. About 3.6 per cent of all contracts showed annual expense from home, office and night calls of as much as $100; 2.6 per cent of these contracts showed *average* annual expense of $100 or more. Indeed, the distributions illustrated by the bottom two rows of Table 5–17 are markedly similar, the averaging effect being chiefly confined to the lowest two categories of expense. Families with high expense from home, office and night calls apparently tend to remain high-expense families in this regard. Comparison with Table 5–13 suggests that the occurrence of other forms of medical need is more random through time.[2]

It is curious that over time, a medical insurance contract covering all procedures other than home, office and night calls would involve less of a redistribution of income among participating families, and hence would more closely resemble true "prepayment" than would a contract including home, office and night calls. It is the prepayment organizations, and not the insurance carriers, who have traditionally included home and office calls in their most popular contracts.

MEDICAL UNINSURABILITY AND INDIGENCY

The major intended application of all the foregoing tables is an illustration of the degree of risk avoidance present in medical insurance and prepayment contracts. The tables, however, also have applicability to at least two "problem areas" of public policy in the medical care field. Two classes of persons are frequently considered to be "denied" coverage under the voluntary system: "medical uninsurables" are excluded by underwriting restraints; "medical indigents" are unable to afford coverage by reason of income. In the case of the former, distributions of medical expense indicate the limits of expense that age or other underwriting restraints might seek to avoid. In the case of the latter, the data presented are directly relevant to any empirical definition of the concept of medical indigency.

Medical Uninsurability

Many persons by reason of age, prior accident, or chronic illness, can be expected to incur substantially higher medical costs than the population generally. An insurance contract that excludes such high-cost individuals therefore will be a less expensive and more attractive package for the more fortunate buyer. Recogni-

[1] For a breakdown of average expense by type of service, see Appendix III.

[2] The implication, of course, is that chronic long-term illness requires the kind of care that can be administered at home or in a doctor's office. An alternative interpretation is that the utilization of physicians' services for home, night and office calls is highly discretionary and that substantial and long-term differences in attitudes in this regard are present among different families.

tion of this has led to requirements for health statements or medical examinations for new applicants, to the exclusion from some contracts of coverage for pre-existing conditions, to the imposition of waiting periods in the case of others, and, in some instances, to the termination or reduction of coverage at some stated maximum age of the insured. Those excluded are the uninsurables.[1]

There are two aspects to this. First, uninsurability stems as much from the voluntary nature of the coverage as from the character of medical expense. It is part of the process of risk selection.

In most areas of insurance, risk selection does not conflict either with the interest of the insured or with that of the community. For example, there is economic reason for the setting of fire insurance rates according to distance from fire fighting facilities. Individuals who locate houses close to such facilities create economies in this area. The existence of this kind of fire insurance rating also creates an incentive to the establishment of collective fire fighting services.

Similarly there is reason to argue that auto insurance premiums *should* vary with the long-range experience of the driver in question. To a large degree, auto accident experience is a function of the skill, maturity, and care of the individual driver. Rating of these contracts rewards socially desirable behaviour.

With life or health insurance, this is not so clearly the case. Nevertheless, with voluntary coverage, underwriting restrictions are essential. If medical examinations were not required for life insurance contracts, individuals could carry minimal protection at normal times, and drastically increase coverage at any sign of impending death. The principal effect of such behaviour would be to make the cost of life insurance unrealistically high for the normally healthy person.

Nothing, however, in the nature of these rules, encourages social behaviour. The insured person rarely elects to die for that reason. If life insurance were compulsory – if all members of the population were to contribute to a national or provincial plan – there would be no behavioural reason to differentiate between "good" and "bad" risks. Risk selection would, with universal coverage, be without meaning.

Medical insurance is in part analogous to life insurance. The presence of exclusions, limitations, and waiting periods are necessary to prevent adverse selection when participation is voluntary. Here, perhaps more than in life insurance, the election of coverage for anticipated services is readily feasible. But illness,

[1] The term uninsurable is not technically correct. The aged or ill person is not uninsurable; his expectation of medical expense is merely greater than that of the average population. Strictly speaking, he is still insurable; there is no absolute certainty of his future medical experience. A fair insurance premium in his case would, however, be markedly above the corresponding premium for a member of the young or "healthy" population. The cost of individually rating each such person would perhaps make such insurance undesirable. The more straightforward procedure is the one that has generally been followed – exclusion of the current illness and related maladies from coverage.

with some exceptions, is neither planned nor pleasant. Once coverage is elected, it is unlikely that health will be influenced by a premium structure rewarding the well and at the expense of the sick.[1] Uninsurability therefore arises primarily because coverage is voluntary and because at least some medical needs are foreseeable. It is not in general a consequence of the nature of medical expense but a consequence of the freedom to elect or decline coverage voluntarily.

There is however the second question of how the nature of medical expense affects insurability. The preceding tables, developed from the experience of large numbers of persons with comprehensive medical prepayment, are indicative of the extremes to which medical expense can run. The prepayment plans considered have few or no exclusions either in terms of enrollment or of pre-existing conditions. Nevertheless, even at the upper age groups nothing in these tables suggests the presence of factors leading to any technical uninsurability. Indeed, one rather striking aspect of the tables is that the distribution of medical expense for the oldest age group, although reflecting higher average expenses throughout, is not markedly different in shape from those distributions developed from the experience of younger persons. It seems likely that the lesser availability of contracts providing coverage for persons of advanced age stems not from any marked change in the character of the distribution of medical expense, but rather from the higher average costs of care, which may substantially reduce the number of persons who would voluntarily elect such coverage were it available. Alternatively, it may be that future needs may become more readily forecast as age increases, thus increasing the likelihood of adverse risk selection with voluntary election of coverage. It is also true that persons of advanced age are less likely to be eligible for some kind of group enrollment, further reducing their attractiveness as potential subscribers to a medical insurance program. The foregoing tables provide no measure of these latter factors. They do, however, rather clearly indicate that medical insurance would continue to provide an important risk-reducing function if adverse selection of coverage were not extreme. Once again, uninsurability appears to arise as a consequence of the partial and voluntary election of coverage, and from the predictability of some medical needs, and not from any inherent characteristic of the inter-family distribution of annual medical expense at any point in time.

Medical Indigency

Medical indigency represents a totally different kind of problem. This is a financial matter. According to G.C. Clarkson, "A major problem in the discussion of the need for medical services in Canada today is the definition of the groups

[1] The utilization of physicians' services, by both the well and the sick, may, however, be affected. See Chapter 6. The implications of this increased utilization are developed in Chapter 7.

who can afford, from their own resources, either full or partial medical insurance coverage".[1] Similarly, Professor C.L. Barber, in a report presented by the Manitoba Medical Association, states his objective as one of determining "... the minimum income level at which individuals and families can be expected to meet the costs of prepaid medical care out of their own resources..."[2] Each is concerned with the medically indigent – those who cannot pay for needed medical service. Each provides evidence useful in the development of a program that would alleviate medical indigency by providing prepayment coverage for those considered unable to afford it.

Their discussion, however, bears little direct relationship to any special characteristic of medical care. The product in question is prepaid medical care or medical insurance, but beyond that the problem is simply one of defining those groups in the population whose consumption of this product "should" be subsidized by the population or community as a whole. It is not surprising that Barber and Clarkson appeal to prior decisions made in this area, both with respect to prevailing income tax structures and to the direct provision of welfare benefits, for guidance in their task. Argument is most easily avoided if an old and established standard forms the basis for reform.

An essential point, however, is that the proposed program does involve medical care. Justification for the program is that some persons in need of medical care are unable to pay for it yet "should" have it. This is not merely a grant of added income to low income families to be used as those families see fit. Implicit in this program is the judgment that lack of income, though it may be an acceptable bar to other services or products, should not be a bar to the availability of needed medical care.

In this light, consider the position of the Manitoba Medical Association in its presentation of Barber's findings:

"...our population can be classified into four groups:

1. Those who are self-supporting and can afford medical insurance of any type (service or indemnity) or who can pay their health care bills themselves.
2. Those who are self-supporting but can afford ONLY comprehensive medical services insurance since *it would be impractical for them to carry even a limited risk themselves.*
3. Those who may be self-supporting but require help to pay for the comprehensive medical insurance they require.
4. Those who are not self-supporting and are already receiving public assistance for the other necessities of life."

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[1] Clarkson, Guy C., *The Cost and Ability to Pay for Medical Services Insurance in Canada and Its Provinces*, Canadian Medical Association, October 1962. (mimeographed)

[2] The Manitoba Medical Association, supplementary brief, Exhibit 55A, January 1962.

"It is", the brief continues, "with groups three and four that we are particularly concerned."[1] And the M.M.A. moves on to consider, with Professor Barber's assistance, the merits of alternative definitions of those groups for whom welfare assistance in the form of medical services insurance should be generally supported by the population at large. Underlying this presentation, since the redistribution is in the form of medical services and not equivalent income, is apparently a belief that the benefits of increased medical care for low-income persons outweigh the normal advantages that follow from the exercise of free individual choice by the recipient families. The objective is the availability of needed medical services for all Canadians. The device is universal (publicly supported) prepayment for groups 3 and 4.

This question, however, is inadequately explored by considering only groups 3 and 4. If there are advantages to be gained from an extension of medical care to all persons regardless of ability to pay, then it would follow that this advantage should be sought wherever possible – wherever income restraints may limit the utilization of medical services – and not artifically restricted to those individuals who fall within groups 3 and 4. For, as the M.M.A. argues, there is an additional group where income restraints may be felt, where, as the M.M.A. asserts, "...(families) would find it impractical to carry even a limited risk themselves". The implication of this assertion is that although these families should, on the average, be regarded as standing sufficiently high on the prevailing income scale to be considered ineligible for further redistributive benefits, they would nevertheless have as much difficulty in meeting greater-than-average medical expense as their less fortunate colleagues in classes 3 and 4 would have in meeting only average medical costs.[2] Under these circumstances there in fully as much reason to impose compulsory medical insurance on families in class 2 of the M.M.A. listing as there is to impose redistribution of income in kind rather

[1] Manitoba Medical Association, supplementary brief, Exhibit 55A, January 1962, p. 4 (italics added). M.M.A. position is not selected for discussion because it is unique. It is simply one of the best presentations of very widely held views.

[2] An interesting point related to this discussion is made by Clarkson who writes "that ..... income tax data, therefore, tends (sic) to establish the marginal point at which the individual is deemed able to have part of his income taken away from him by the Government. It is precisely at this line, therefore, that the Government should also start to consider returning it to the income earner in the form of a subsidy, partial premium payment, further exemption from tax or other similar device." Although this is perhaps not Clarkson's intention, his argument almost implies that subsidy stops where income tax begins. This is not correct. Although nothing would be more difficult than to determine by income class the distribution of tax-supported benefits, it is nevertheless clear that the distribution of benefits is far more equal than the initial distribution of earned income and vastly more equal still than the distribution of actual tax benefits. For illustrative purposes, suppose that the distribution of collectively provided services is equal – that all families share equally the benefits of education, mail service, defence, sanitation, law, justice, and so forth. Under these circumstances the point at which subsidy ends is the point at which *average*, not lowest, per capita tax rates are paid. The line distinguishing taxpayers from non-taxpayers is simply the point at which total subsidy rather than partial subsidy in the form of publicly provided benefits occurs. Though obvious, this point is often overlooked.

than in direct payments on families in classes 3 and 4.[1] The subsidy reflects the desire to ensure that at no point necessary medical services shall be spurned because of cost considerations. The imposition of redistribution in kind rather than as income is selected because of other costs imposed when a family or individual makes decisions based on his own, rather than on society's judgment in this regard. Although funds were made available to him for medical services, he may choose alternative uses and find later that the cost of his medical needs exceeds his available resources. But the same situation can occur if a family head or individual with income "deemed sufficient" to meet the costs of medical insurance chooses, however unwisely, to divert funds to other uses, or merely to decline to buy medical insurance. He too may subsequently be faced with uninsured medical expense beyond the limits of his resources. It is tempting to argue that this is the consequence of unwise action. Personal responsibility, an end in itself, should be encouraged, and if this freedom of choice is removed, a necessary part of the environment that stimulates and breeds both responsibility and initiative will be lost. But if this argument is followed to its logical conclusion, the best solution would be to provide class 3 and 4 families with funds equal to the premiums of needed medical insurance *without* requiring that they buy this insurance. Surely responsibility and initiative are everywhere to be encouraged and not merely within the ranks of the fortunate and well-to-do!

The only ultimate escape from this logic lies in a general assertion that low-income individuals cannot be considered to evaluate their own needs and desires as accurately as can the more materially successful segments of the population. This concept is not one that can be expected to win immediate and widespread approval.

A more meaningful line of demarcation in the M.M.A.'s stratification is, therefore, between class 1 and class 2 families.[2] This distinction is between families that can safely be considered immune by virtue of income or wealth to the threat of debilitation by any form of medical expense, whether insured or not, and families whose continued well-being would be guaranteed only with comprehensive medical insurance or prepayment coverage.[3] It is, therefore, group 1 and

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[1] There is a tendency in popular writing to distinguish between the "responsible" nature of self-supporting families and the "irresponsible tendencies" of welfare recipients and hence to justify restraints in the case of the latter which are considered inappropriate in the case of the former. This form of reasoning is not particularly appealing, especially to the latter group. Note that the distinction between self-supporting and non-self-supporting families made by the M.M.A. is itself artificial.

[2] This is not to say that there is no significance to be attached to an attempted delineation between classes 2 and 3. This division is, of course, essential in determining the system of contributory payments necessary to support such a program. But as such, this work lies primarily within the field of taxation and bears little direct relationship to medical economics. Essentially the same reasoning would apply regardless of the product in question. The unique characteristic of medical services in this context lies in the variability of the realized cost of these services. It is for this reason that the M.M.A. class 2 is meaningful, and it is also for this reason that, once intervention is introduced, the issue of compulsory or universal coverage arises.

[3] The term "comprehensive" is necessary here only if the external effects justifying intervention are present with all medical services. If this is not the case, only those forms for which externalities are considered significant would be included in the prepayment or insurance package. See Chapter 7.

only group 1 where consideration of public action would serve no useful purpose. All this, of course, presumes that in the judgment of society, the benefits to be gained from intervening with the interplay of free market forces more than offsets both the cost of administering and operating such a policy as well as whatever cost may be associated with the application of this further control.

In this light, Tables 5–2 through 5–9 may be examined with a view toward estimating the quantitative importance of class 1 families. The question here, of course, is how high a family's income must be before realization of the most adverse experience shown by these tables would be debilitating, or alternatively, how high that family's income would have to be if income were not to be a limiting factor in the purchase of medical services under the most adverse medical experience.[1]

Any decision regarding what a family can afford will reflect personal judgment. Not only is this true of any empirical distinction between these class 1 and class 2 families, but it is also true of the distinction attempted by Clarkson and others between class 2 and 3 families. All that is added by distributions of medical expense shown here is an estimate of the quantitative difference between average medical expense, or alternatively the cost of medical prepayment, and the upper, and of course lower, limits to a monetary measure of the observed utilization of medical facilities under fairly standardized circumstances. The reader is well able to make this comparison himself; the necessary premium or family subscription cost data are provided, and the tables show realized expense. Further and more detailed average family expenses for matching family types are included in Chapter 6. It would seem, despite the limitations of any policy based in value judgments, that demarcation of the income level separating class 1 from class 2 families would exceed that line dividing class 2 from class 3 families by an amount at least equal to that by which the cost of the most adverse experience exceeds that of average experience.

MAXIMUM MEDICAL EXPENSE

As a further illustration, relevant to any discussion of "ability to pay", all families with annual claims expense of more than $750 were isolated from the Manitoba Medical Service records earlier described. Table 5–18 summarizes the various categories of expense, and identifies the characteristics of each household in this category. In all, of 84,730 M.M.S. families fully protected by Plan HCX coverage during 1961, 97 families received services for which costs, according to the 1961 M.M.A. Schedule of Fees, totaled $750 or more. The highest single cost was incurred by a single man between 65 and 69 years of age with no

[1] This formulation makes clear what seems intuitively correct, that the definition of a medically indigent family depends upon the medical experience of that family. It is misleading, for example, to assert that a family with a very low income is medically indigent if that family has no need for medical services. The family may be indigent but surely not medically indigent except in a conditional sense. But so may be a family with average income. Medical expense is highly variable. A fairly fortunate family in terms of income may nevertheless be rendered indigent in the face of extreme medical expense.

TABLE 5–18

ANNUAL FAMILY MEDICAL EXPENSE, BY CLASS OF SERVICE AND TYPE OF FAMILY, FAMILIES WITH TOTAL ANNUAL EXPENSE EXCEEDING $750, 1961

Type of Family	Number of Children	Age of Family Head	Annual Family Expense				
			All Services	In-hospital Services	All Services except Surgery, Maternity and Well-Baby Care	All Home and Office Calls	All Laboratory and X-Ray
			$	$	$	$	$
Male Persons Without Spouse	0	70–75	755	535	280	44	156
	0	65–69	762	399	430	292	31
	0	45–49	772	266	732	256	230
	0	75–79	792	693	199	45	54
	0	75–79	794	632	439	85	77
	0	65–69	1,297	993	402	95	164
	0	65–69	1,737	244	1,499	1,463	10
Female Persons Without Spouse	0	60–64	773	709	353	44	18
	0	70–74	781	264	560	264	198
	0	40–44	807	176	807	488	98
	0	40–44	814	507	422	226	40
	0	45–49	818	790	722	28	0
	0	20–24	851	700	475	31	100
	0	45–49	869	506	729	148	115
	0	45–49	877	728	282	69	54
	0	55–59	1,005	217	613	376	217
	0	50–54	1,095	1,044	94	32	18
	0	65–69	1,100	961	351	54	62
	0	55–59	1,207	1,062	585	63	42
Couples	5	30–34	751	544	260	133	54
	3	45–49	751	501	250	91	139
	2	45–49	754	426	328	158	161
	4	30–34	754	530	334	96	51
	0	70–74	757	513	354	72	162
	0	60–64	759	529	342	118	82
	3	50–54	760	587	268	75	68
	1	30–34	762	593	570	105	26
	0	50–54	763	160	763	305	208
	0	65–69	766	25	741	435	253
	0	60–64	767	518	369	72	102
	2	50–54	769	686	299	66	17
	0	65–69	770	598	202	82	65
	2	40–44	771	424	349	147	180
	6	40–44	773	104	753	369	205
	1	45–49	773	599	382	137	17
	5	30–34	774	338	524	213	158
	8	40–44	774	415	364	142	145
	0	65–69	776	265	616	267	169
	1	50–54	777	295	482	111	337
	2	45–49	779	165	679	409	106
	1	40–44	781	665	141	39	8
	0	60–64	781	419	706	198	124
	1	40–44	782	269	517	304	99
	5	30–34	783	220	653	450	70
	0	65–69	785	713	288	27	25
	3	35–39	788	644	317	71	23

TABLE 5–18 (Concluded)

Type of Family	Number of Children	Age of Family Head	Annual Family Expenses				
			All Services	In-hospital Services	All Services except Surgery, Maternity and Well-Baby Care	All Home and Office Calls	All Laboratory and X-Ray
			$	$	$	$	$
Couples (Concl.)	3	30–34	788	685	461	66	0
	1	50–54	789	737	66	29	23
	3	40–44	791	462	333	192	126
	1	60–64	795	525	325	178	77
	3	35–39	801	617	184	66	103
	1	50–54	803	415	388	181	177
	5	35–39	803	460	433	138	170
	2	50–54	804	493	391	146	115
	0	60–64	806	758	51	22	26
	2	60–64	807	17	807	495	143
	2	25–29	816	678	242	56	7
	5	40–44	826	592	239	184	4
	0	60–64	830	680	150	44	63
	0	65–69	838	700	353	78	15
	1	50–54	842	682	198	83	65
	0	60–64	846	495	481	120	181
	8	40–44	849	579	285	173	47
	3	30–34	851	264	785	453	57
	1	35–39	858	338	520	295	215
	2	30–34	862	728	264	94	16
	2	45–49	866	724	144	91	51
	0	60–64	867	737	191	74	56
	0	55–59	870	406	537	114	330
	2	30–34	874	352	654	192	327
	1	20–24	903	812	192	49	16
	3	35–39	910	756	194	119	15
	2	45–49	929	770	211	79	52
	1	60–64	930	712	218	61	120
	4	35–39	944	583	385	174	162
	1	45–49	951	464	510	377	96
	2	45–49	955	853	156	55	27
	3	45–49	956	547	394	194	151
	0	55–59	957	700	326	108	119
	2	40–44	960	740	345	168	20
	3	40–44	961	696	265	72	126
	1	60–64	961	892	119	66	3
	3	40–44	977	129	912	799	22
	3	40–44	986	296	700	305	291
	5	45–49	1,012	403	619	261	258
	2	45–49	1,014	841	263	115	48
	2	25–29	1,018	876	443	85	14
	3	50–54	1,037	635	496	137	144
	2	35–39	1,119	398	1,001	376	219
	0	55–59	1,171	1,078	248	53	0
	1	55–59	1,190	356	838	408	350
	0	65–69	1,219	780	641	839	65
	3	30–34	1,222	150	1,087	454	356
	6	55–59	1,303	820	557	324	96
	2	35–39	1,359	1,113	684	127	75
	4	35–39	1,447	847	778	447	65
	3	45–49	1,459	1,237	628	106	68

Source: Claims Records of Manitoba Medical Service, 1961.

children. The cost of his physician's services in 1961 came to $1,737 and this should not be regarded as an absolute limit.[1]

No single definitive determination can be made of those families which, in the words of the M.M.A., "cannot afford" to face this risk, but the class is surely not sparsely populated. Eighty-five per cent of all single individuals and 38 per cent of all families, in Canada in 1961 reported incomes of less than $4,000.[2] In the past, organized medicine or social assistance has accepted responsibility for those situations of most extreme need. The broader application of medical prepayment offers an alternative to this professional or public generosity.

Perhaps the most telling feature of all, and certainly the most empirically valid of all generalizations in the area of medical insurance and prepayment is the observed fact that fully comprehensive medical insurance or prepayment has become, in the past ten years, almost a necessity for the rich and an actively sought fringe benefit for the working population. It is only where the curb of income restraint cuts tight that this is not the case. The further one proceeds up the ladder, therefore, the less the behavioural divergence between complete (or socially imposed) medical insurance or prepayment protection and the outcome of the exercise of individual free choice.

SUMMARY

This chapter has been concerned with the distribution of family medical expense.

A primary purpose of medical insurance or prepayment is the elimination or avoidance of risk associated with the cost of medical care. The data here assembled illustrate quantitatively the contribution that medical insurance or prepayment can make in contributing to the avoidance of that risk. From the records of Manitoba Medical Service it has been possible to array distributions not only for relatively narrow family categories but also for a range of medical services and, for example, to compare the variance of in-hospital costs with those of other categories of medical service. A major finding in this regard is the wide variability of experience derived from categories of service often thought relatively stable in this context. The more limited data from Physicians' Services Incorporated, though less satisfactory in terms of detail, nevertheless illustrate the problem posed by longer range experience.

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[1] Higher totals would, on the basis of average medical experience, have been expected for single women and, of course, family units. Maximum expenses here were only $1,371 and $1,459 respectively. Although the probability of annual expense of this order is very low, the probability of even greater annual expense is not zero. It is precisely this characteristic which makes insurance, whether in the form of prepayment or otherwise, both feasible and desirable.

[2] Dominion Bureau of Statistics, *1961 Census of Canada*, Bulletin 4.1—1, Tables D1 and D2, pp. D1—1, D2—1, and D2—2.

A second application of these data relates to the definition of medical indigency. As this term has come to be used, it described individuals unable (or perhaps unwilling), by reason of limited income, to pay for needed medical care. Much recent discussion of medical indigency has been set in terms of the cost of comprehensive prepayment or insurance protection. The argument has focussed on "ability to pay" the annual premium or subscription cost of that protection.

In the absence of universal insurance or prepayment coverage, such a comparison is irrelevant. In the absence of such protection, medical indigency will be defined not by ability to pay the cost of a hypothetical insurance or prepayment contract which is not in force, but rather by ability to pay for realized (or "needed") medical services. The relevant comparison is not with something approximating the average cost of medical services, but with the actual personal liability medical services received. The distributions of realized medical expense presented show the extent by which actual experience can deviate from the average. Any attempt to define medical indigency in terms of average experience, or alternatively, in terms of the average cost of comprehensive medical prepayment, is unrealistic as long as a significant proportion of the population remains uninsured. Support for only those persons unable, by some criteria, to meet the subscription cost of medical prepayment will fall far short, under these circumstances, of providing for all persons unable, by these same criteria, to meet the cost of "needed" medical care. This discussion is further developed in Chapter 7.

CHAPTER 6

FAMILY MEDICAL EXPENSE: ESTIMATES AND PROJECTIONS

Chapter 5 emphasized the variance of medical expense within selected family categories. This chapter is concerned not with measures of variance, but rather with estimating the effect of age, sex, family size, location, and experience on several classifications of average medical expense. These measures are also based on family units and, for the most part, on data from Manitoba Medical Service. Some additional material from Medical Services Incorporated in Saskatoon and from the Saskatchewan Medical Care Insurance Commission is also included.

Estimates of these effects have been derived from the application of linear regressions with dummy variables defining relevant family characteristics. In simple cases this technique produces estimates that correspond exactly to those that would be obtained from a calculation of observed mean expense for the individual classes of family. In other instances restraints imposed by the regression models produce somewhat different estimates. The necessary qualification, and the advantages and disadvantages of these alternative procedures, are discussed as each model is itself introduced.

As before, single males, single females, and couples are treated separately. In each case the influence of family size (number of children), and age of household head is quantitatively estimated. In the more detailed models, measurement of the effect of rural as opposed to urban residence, and of the duration of M.M.S. membership, is also attempted. As indicated earlier, there are reasons for expecting differential patterns in the behaviour of urban and rural families. Similarly the experience of government-supported medical service plans, in Canada and elsewhere, and of the voluntary medical service organizations themselves, suggests that utilization tends to increase quite substantially with increased familiarity with available benefits. The length of M.M.S. membership is introduced as a variable on this latter account.

This work is directly applicable in estimating the total cost of extending this pattern of medical care beyond the currently covered population. If the family characteristics considered are relevant and inclusive, estimates of average cost for alternative populations can readily and quickly be made. For this purpose, however, the family classification scheme must include all family types, and limits to the degree of desirable disaggregation are imposed by the size of M.M.S. membership within certain family size categories. Thus, for example, while it is possible to estimate accurately the cost of a fifth child for couples where the household head is 25–34 years of age, it is not possible to measure directly the annual expense of a single male with five dependent children. The M.M.S. membership does not include a family of the latter type. Such estimates must be based on the experience of other M.M.S. families that can be considered analogous.

EXPERIENCE OF MANITOBA MEDICAL SERVICE

Two separate approaches were followed in this analysis. First, separate regression models were applied within each of eighteen sub-populations defined by the age, sex, and marital status of the household head. In the simplest case, where the only additional variable considered was family size, each individual regression equation took the following form:

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + u,$$

where

Y is annual family medical expense.

X_i is 1 if the $_i$th child is present and 0 otherwise, and $\alpha_0 \ldots\ldots \alpha_5$ are parameters with u an error term assumed to be normally distributed with a mean of zero and a variance σ^{-2}.[1]

In the full model eighteen such equations each estimate five α's. There are three sets of six equations each, one set for each of the three basic family classifications (single males, single females, and couples). Each individual equation is applicable to a particular age category of household head. The age categories, 15–24, 25–34, 35–44, 45–54, 55–64, and 65–74 were employed for this purpose.[2]

For illustrative purposes, consider the regression equation obtained from the total claims experience of M.M.S. couples where the household head is aged 35–44.[3] In this case

$$Y = 73.20 + 23.83 X_1 + 15.82 X_2 + 17.52 X_3 + 12.24 X_4 + 26.85 X_5$$

[1] The fifth child corresponds to 5 or more children.

[2] Households headed by persons under 15 and over 74 were not processed.

[3] In the case of couples the male adult is defined as the household head.

The estimated average family medical expense for all HCX services is, therefore, $73.20 for a couple without children where the household head is from 35–44 years of age.[1] The first child adds $23.83 to this total, the second $15.82 and so on until the estimated total expense for this type of family with five or more children is $73.20 + $23.83 + $15.82 + $17.52 + $12.24 + $26.85, or $169.46.[2] The general decline, with increased family size, of the medical cost of an added child, though striking, is familiar and expected. The markedly higher cost of the fifth child results not from any reversal of this trend, but from the definition of the model which considers five or more children as a single "fifth" child. The $26.85 is, therefore, the cost on the average of more than a single additional child.[3]

The regression coefficients estimated from the full 18 equations of this model (Model I) are shown, with t-ratios, in Table 6–1. Missing coefficients represent instances where no family of the category indicated was present in the M.M.S. sample.[4]

As an alternative model the single regression equation

$$Y = a_0 + a_1 X_1 + a_2 X_2 + \ldots\ldots a_{12} X_{12} + u$$

was also fitted to these data. Here

Y is annual family medical expense.

X_1 is 1 if the family in question is headed by a male without spouse (but with or without children), and 0 otherwise.

X_2 is 1 if the family is headed by a female (with or without children) without spouse, and 0 otherwise.

X_{i+2} is 1 if the $_i$th number of children, up to five, are present, and 0 otherwise, with five or more children considered as five children.

X_{i+7} is 1 if the head of the household is in the $_i$th age bracket (where five ten-year age brackets are considered, the first being age group 25–34 and the fifth age group 65–74) and 0 otherwise.

a_0 to a_{12} are parameters, and u again a random error term.

In this case a_0 is the estimated annual medical expense for a couple, head aged 15–24, without children. The other coefficients indicate respectively the amounts by which a missing spouse, children, or increased age of household head, increase or decrease this "basic" estimate.

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[1] The estimating technique of this first model requires that this and other estimates correspond exactly with the arithmetic mean expenses of all families in the category in question.

[2] The decline in the medical expense associated with an extra child is, of course, not perfect. In this illustration the estimated cost of a third child is slightly (though not significantly) greater than the cost of a second child. In general, however, this tendency is very apparent.

[3] The M.M.S. membership processed includes 767 couples, head aged 35–44, with five children, 317 with six children, 154 with seven children, and 90 with eight or more children. The total cost of $169.46 is based, therefore, on the average cost of all these families, not just those with five children.

[4] Coefficients based on the experience of less than 50 M.M.S. families were ignored in the application of this model. See footnotes (a) and (b), Table 6–3.

TABLE 6–1

REGRESSION COEFFICIENTS AND T-RATIOS, ALL HCX SERVICES, MODEL I, MANITOBA MEDICAL SERVICE

Variable	Regression Coefficient	T-Ratio
1. Single Male 15 – 24		
Intercept (a_0)	20.93	--
Children Present		
a_1	–12.93	–0.30
a_2	–12.93	–0.30
2. Single Male 25 – 34		
Intercept (a_0)	22.97	--
Children Present		
a_1	2.20	0.12
a_2	81.74*	3.48
3. Single Male 35 – 44		
Intercept (a_0)	29.74	--
Children Present		
a_1	85.96*	4.15
a_2	–46.77	–1.76
a_3	69.57*	2.61
a_4	11.83	0.28
a_5	–91.83	–1.54
4. Single Male 45 – 54		
Intercept (a_0)	39.05	--
Children Present		
a_1	38.00*	2.15
a_2	23.56	0.85
a_3	–46.43	–1.15
a_4	297.83*	3.29
a_5	–222.83	–2.46
5. Single Male 55 – 64		
Intercept (a_0)	49.26	--
Children Present		
a_1	15.84	0.57
a_2	– 7.50	–0.16
a_3	–57.60	–0.60
a_4	12.00	0.10
6. Single Male 65 – 74		
Intercept (a_0)	73.68	--
Children Present		
a_1	45.18	0.88
a_2	–42.86	–0.30
7. Single Female 15 – 24		
Intercept (a_0)	29.06	--
Children Present		
a_1	56.05*	3.23
a_2	–13.25	–0.51
a_3	268.64*	8.25

TABLE 6–1 (Continued)

Variable	Regression Coefficient	T-Ratio
8. Single Female 25 – 34		
Intercept (a_0)	32.98	--
Children Present		
a_1	34.22*	4.50
a_2	18.65	1.79
a_3	–15.58	–0.98
a_4	92.47*	4.14
a_5	–65.25	–1.43
9. Single Female 35 – 44		
Intercept (a_0)	41.52	--
Children Present		
a_1	16.85	1.96
a_2	36.20*	3.43
a_3	–16.63	–1.29
a_4	15.70	0.77
a_5	88.16*	2.91
10. Single Female 45 – 54		
Intercept (a_0)	50.17	--
Children Present		
a_1	32.66*	3.89
a_2	–5.67	–0.49
a_3	35.60*	1.98
a_4	66.48	1.43
a_5	–153.75*	–2.03
11. Single Female 55 – 64		
Intercept (a_0)	55.64	--
Children Present		
a_1	60.99	3.50
a_2	1.54	0.04
a_3	–33.17	–0.34
12. Single Female 65 – 74		
Intercept (a_0)	60.46	--
Children Present		
a_1	91.54	0.98
13. Couples, Head 15 – 24		
Intercept (a_0)	43.10	--
Children Present		
a_1	62.73*	15.97
a_2	40.57*	7.63
a_3	33.87*	3.03
a_4	–39.39	–1.68
a_5	33.12	0.63
14. Couples, Head 25 – 34		
Intercept (a_0)	55.50	--
Children Present		
a_1	49.75*	18.58
a_2	18.88*	7.97
a_3	19.79*	7.73
a_4	18.48*	4.80
a_5	23.85*	4.08

TABLE 6–1 (Concluded)

Variable	Regression Coefficient	T-Ratio
15. Couples, Head 35 – 44		
Intercept (a_0)	73.20	--
Children Present		
a_1	23.83*	6.14
a_2	15.82*	5.46
a_3	17.52*	7.01
a_4	12.24*	3.78
a_5	26.85*	6.51
16. Couples, Head 45 – 54		
Intercept (a_0)	91.37	--
Children Present		
a_1	16.88*	5.80
a_2	11.48*	3.89
a_3	13.40*	5.56
a_4	3.06	0.55
a_5	26.53*	3.71
17. Couples, Head 55 – 64		
Intercept (a_0)	98.14	--
Children Present		
a_1	18.83*	5.02
a_2	6.64	1.06
a_3	20.56*	2.02
a_4	–18.50	–1.08
a_5	40.38	1.84
18. Couples, Head 65 – 74		
Intercept (a_0)	11 1.21	--
Children Present		
a_1	5.67	0.57
a_2	–23.42	–1.00
a_3	37.21	0.94
a_4	28.33	0.45
a_5	–46.00	–0.55

* Significantly different from zero at the 95 per cent confidence level.

The actual coefficients derived from fitting this second model (Model II) to the Manitoba data are given, again with standard errors and t-ratios, in Table 6–2. The interpretation of this table is straightforward. The point estimate of annual average total family medical expense for a family headed by a single male 45–54 years of age, with three children, would be $a_0 + a_1 + a_3 + a_4 + a_5 + a_{10}$, or \$65.71 – \$43.92 + \$28.27 + \$15.80 + \$17.07 + \$15.56, or \$98.49. The tendency for medical expense to be higher for females is evident from the fact that a_1 has a greater absolute value than a_2, and the lower per capita costs associated with increasing numbers of children can readily be seen from a comparison of a_3 through a_7. Coefficients a_8 to a_{10} reflect the impact of increasing age, an effect which appears at

first to be negative, probably reflecting maternity expense, and then increasing with age as expected.

TABLE 6–2

REGRESSION COEFFICIENTS AND T-RATIOS, ALL HCX SERVICES, MODEL II, MANITOBA MEDICAL SERVICE

Variable	Regression Coefficient	T-Ratio
Intercept (a_0)	65.71	–
Spouse Absent		
a_1	–43.92*	–32.79
a_2	–36.91*	34.38
Children Present		
a_3	28.27*	22.30
a_4	15.80*	11.98
a_5	17.07*	11.73
a_6	11.04*	5.36
a_7	24.37*	8.88
Age of Family Head		
a_8	8.77*	6.22
a_9	5.45*	3.76
a_{10}	15.56*	10.99
a_{11}	27.76*	18.52
a_{12}	40.83*	25.61

* Significantly different from zero at the 95 per cent confidence level.

The implications of this latter model, Model II, and the eighteen-equation model, Model I, are developed in more detail in Table 6–3. This table presents estimates of annual medical expense derived from these regression coefficients for each of 108 family types. The estimates under Model I in Table 6–3 are based on exactly corresponding coefficients only where more than 50 M.M.S. families were present in the applicable family category. If fewer than 50 families were present, the medical expense figure shown was estimated from the experience of other families corresponding either in age or size.

For example, only one M.M.S. family with one child was headed by a single male aged 15–24. There were, however, 3,551 M.M.S. single male persons aged 15–24 with no children, 1,119 M.M.S. couples head aged 15–24 with no children, and 776 couples head aged 15–24 with one child. The figure shown in Table 6–3 under Model I for the medical expense for a single male aged 15–24 with one child was obtained by adding to the amount shown for a single male aged 15–24 with no children, the amount by which medical expense for a couple with one child exceeded the medical expense of a couple with no children when within this same age category.

TABLE 6–3

ESTIMATED FAMILY EXPENSE, BY TYPE OF FAMILY, ALL HCX SERVICES, MODEL I AND MODEL II, MANITOBA MEDICAL SERVICE

Family Type	Estimated Family Expense	
	Model I	Model II
	(dollars)	
Males without Spouse		
15 – 24 Years		
0 children	20.93	21.79
1 child	83.66[a]	50.06
2 children	124.23[a]	65.86
3 children	158.10[a]	82.93
4 children	176.58[b]	93.97
5+ children	200.43[b]	118.34
25 – 34 Years		
0 children	22.97	30.56
1 child	72.72[a]	58.83
2 children	91.60[a]	74.63
3 children	111.39[a]	91.70
4 children	129.87[a]	102.74
5+ children	153.72[a]	127.11
35 – 44 Years		
0 children	29.74	27.24
1 child	53.57[a]	55.51
2 children	69.39[a]	71.31
3 children	86.91[a]	88.38
4 children	99.15[a]	99.42
5+ children	126.00[a]	123.79
45 – 54 Years		
0 children	39.05	37.35
1 child	55.93[a]	65.62
2 children	67.41[a]	81.42
3 children	80.81[a]	98.49
4 children	83.87[a]	109.53
5+ children	100.40[a]	133.90
55 – 64 Years		
0 children	49.26	49.55
1 child	68.09[a]	77.82
2 children	74.73[a]	93.62
3 children	95.29[a]	110.69
4 children	76.79[a]	121.73
5+ children	117.17[a]	146.10
65 – 74 Years		
0 children	73.68	62.62
1 child	79.35[a]	90.89
2 children	85.99[b]	106.69
3 children	106.55[b]	123.76
4 children	88.05[b]	134.80
5+ children	128.43[b]	159.17

TABLE 6–3 (Continued)

Family Type	Estimated Family Expense	
	Model I	Model II
	(dollars)	
Females without Spouse		
15 – 24 Years		
0 children	29.06	28.80
1 child	91.79[a]	57.07
2 children	132.36[a]	72.87
3 children	166.23[a]	89.94
4 children	184.71[b]	100.98
5+ children	208.56[b]	125.35
25 – 34 Years		
0 children	32.98	37.57
1 child	67.20	65.84
2 children	85.85	81.64
3 children	105.64[a]	98.71
4 children	124.12[a]	109.75
5+ children	147.97[a]	134.12
35 – 44 Years		
0 children	41.52	34.25
1 child	58.57	62.52
2 children	94.57	78.32
3 children	112.09[a]	95.39
4 children	124.33[a]	106.43
5+ children	151.18[a]	130.80
45 – 54 Years		
0 children	50.17	44.36
1 child	82.83	72.63
2 children	77.16	88.43
3 children	90.56[a]	105.50
4 children	93.62[a]	116.54
5+ children	120.15[a]	140.91
55 – 64 Years		
0 children	55.64	56.56
1 child	74.74[a]	84.83
2 children	81.11[a]	100.63
3 children	101.67[a]	117.70
4 children	83.17[a]	128.74
5+ children	123.55[a]	153.11
65 – 74 Years		
0 children	60.46	69.63
1 child	66.13[a]	97.90
2 children	72.77[b]	113.70
3 children	93.33[b]	130.77
4 children	74.83[b]	141.81
5+ children	115.21[b]	166.18

TABLE 6–3 (Concluded)

Family Type	Estimated Family Expense	
	Model I	Model II
	(dollars)	
Couples		
Family Head 15 – 24 Years		
0 children	43.10	65.71
1 child	105.83	93.98
2 children	146.40	109.78
3 children	180.27	126.85
4 children	198.75[b]	137.89
5+ children	222.60[b]	162.26
Family Head 25 – 34 Years		
0 children	55.50	74.48
1 child	105.25	102.75
2 children	124.13	118.55
3 children	143.92	135.62
4 children	162.40	146.66
5+ children	186.25	171.03
Family Head 35 – 44 Years		
0 children	73.20	71.16
1 child	97.03	99.43
2 children	112.85	115.23
3 children	130.37	132.30
4 children	142.61	143.34
5+ children	169.46	167.71
Family Head 45 – 54 Years		
0 children	91.37	81.27
1 child	108.25	109.54
2 children	119.73	125.34
3 children	133.13	142.41
4 children	136.19	153.45
5+ children	162.72	177.82
Family Head 55 – 64 Years		
0 children	98.14	93.47
1 child	116.97	121.74
2 children	123.61	137.54
3 children	144.17	154.61
4 children	125.67	165.65
5+ children	166.05	190.02
Family Head 65 – 74 Years		
0 children	111.21	106.54
1 child	116.88	134.81
2 children	123.52[b]	150.61
3 children	144.08[b]	167.68
4 children	125.58[b]	178.72
5+ children	165.96[b]	203.09

[a] Estimated from the experience of couples in corresponding age class.

[b] Estimated from couples in the nearest age bracket.

This procedure assumes that the medical expense of the $_i$th child for a household headed by a single person is the same as the cost of that child in the case of households headed by a couple where the age of the male member of that couple is within the same age bracket as the single person under consideration. Where there were fewer than 50 couples with the given number of children in the M.M.S. population, medical expense was similarly estimated by adding to the cost of couples in the same age bracket with one fewer children the cost of the extra child in the case of couples in the nearest age bracket. All such "indirect" estimates are footnoted in Table 6–3.

These assumptions are necessary because of limitations in the age, sex, and family size distribution of the M.M.S. subscriber population.[1] This distribution limits the degree to which the behaviour of family classes can be considered independently. Model I is less aggregative than Model II. Under the former the effect of children can be estimated independently in different household types; under the latter it can not. Thus, for example, allowance is made in Model I for the possibility that the $_i$th child may be less costly for a couple than for a single parent, or for an elderly couple than for a younger couple. Similarly this model does not impose the restraint that the effect of age be the same in the case of couples as in the case of single persons. This flexibility is an advantage of Model I. The model has the additional feature, desirable at least intuitively, that the estimate of medical expense in each case corresponds exactly with the mean medical expense of the actual families involved.[2] The disadvantage, of course, is that the data in this case do not permit full estimation in every instance and that *ad hoc* assumptions are necessary if the full range of estimates in Table 6–3 is to be provided.

Model II represents a formal structuring of such assumptions. This model differs from Model I in that the cost of the $_i$th child is assumed equal in all family types, whether headed by a couple or by a single individual, regardless of the age of the household head. The estimated added cost of that child is subject to that restraint. Similarly, the effect of absence of a spouse is assumed equal in all age and family size classes. This last is internally contradictory. The model elsewhere explicitly recognizes the effect of age and as a result probably underestimates costs for younger single persons and their children, and over-estimates expenses for single persons in the upper age categories. This rigidity is the disadvantage of aggregation. The offsetting advantage is that the model

[1] The M.M.S. population of Plan HCX subscribers is large and was processed in its entirety. Though important, the limitations noted above are far less restrictive than would have been the case with a smaller or less diverse sample. The M.M.S. membership included 84,730 family units with full HCX coverage in force for the entire 12 months of 1961.

[2] This is true, of course, only if the estimate is based directly on the regression coefficients of Table 6–1, It is not true of those estimates that are footnoted in Table 6–3.

is directly applicable and formally incorporates assumptions which are ultimately necessary if a completely inclusive set of estimates for all family classes is to be provided.[1]

These estimates for individual family categories can, of course, form the basis for total cost estimates for any population which can be totally divided into the 108 defined family classes. Table 6–4 shows the composition of the 1961 Canadian population, for the country as a whole and for each of the ten provinces individually, according to this classification. This breakdown, presented in percentage terms, was estimated from preliminary and unpublished material made available by the Dominion Bureau of Statistics in 1963.[2] If each family in the Canadian population as a whole were to obtain medical services equal, on the average, to the services obtained by the corresponding families in the M.M.S. population, the total medical expense of extending this level of service to the entire Canadian population would be the sum of percentages in Table 6–4, multiplied in each case by the corresponding point estimates of family expense in Table 6–3, this sum in turn being multiplied by the Canadian population in hundreds. The combined implications of the estimates of Model I and Model II in Table 6–3 and the estimated family structure of the Canadian population in Table 6–4 are shown in Table 6–5 as single per capita cost estimates for Canada and for each of the provinces. Variation in these per capita estimates among the ten provinces reflects only relative differences in the family structure among the ten provinces. As expected, the distinction between Model I and Model II in this over-all context is minor.

A variety of assumptions underlie these estimates. First, they extend the average per family M.M.S. experience to all families in the populations considered. Correction is present for age, sex, and family size, as defined by the regression models used, but no further correction is made. There are many reasons for believing, *a priori*, that this procedure is inadequate if true cost estimates of the full HCX coverage in each of the ten provinces were the ultimate goal. The M.M.S. population is disproportionately urban. Winnipeg is a medical center with medical facilities available and utilized to a degree that is not representative of much of the remainder of Canada.

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[1] Other models reflecting different sets of assumptions are, of course, possible. If limits of time and budget had permitted a more adequate exploration of alternative constructions, the most interesting would perhaps have fitted models similar to Model II separately for each age class. This would have avoided a major shortening of the aggregative model. Experimentation with models similar to Model II, but expanded to allow independent age effects for couples and single persons did not initially produce plausible results.

[2] Table 6–4 is tentative. Several assumptions were necessary which cannot fully be justified. The reader is cautioned that the information in this table will not necessarily be consistent with final tabulations of the 1961 Census of Population. The estimates in Table 6–4 are not to be construed as in any way reflecting the judgement of the Dominion Bureau of Statistics.

TABLE 6–4

DISTRIBUTION OF FAMILIES BY NUMBER OF CHILDREN AND AGE OF FAMILY HEAD, CANADA AND PROVINCES[1]

	Canada	Nfld.	N.S.	P.E.I.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	Percentages										
Males Without Spouse											
15 to 24 years of age											
0 Children	2.35085	2.06078	2.55200	1.82428	1.78286	2.23909	2.25017	2.25260	2.69443	2.82371	2.71681
1 Child	.01061	.01762	.01604	.00565	.01499	.00851	.01217	.00974	.00564	.01011	.00920
2 Children	.00429	.00961	.00665	.00283	.01124	.00279	.00403	.00503	.00313	.00659	.00371
3 Children	.00082	.00240	.00157	.00283	.00054	.00061	.00093	.00094	.00031	.00088	.00048
4 Children	.00045	.00080	.00078	–	.00054	.00036	.00053	.00063	–	.00066	.00016
5+ Children	.00010	.00080	.00039	–	–	–	.00018	–	–	–	–
25 to 34 years of age											
0 Children	4.63163	4.05828	5.02808	3.63692	3.51272	4.41096	4.43352	4.43984	5.30795	5.56327	5.35239
1 Child	.04 023	.04005	.04695	.02261	.04337	.04388	.04373	.03363	.02382	.02747	.03632
2 Children	.03021	.03444	.03717	.02261	.02838	.02954	.03271	.02514	.01944	.02790	.03003
3 Children	.01365	.02082	.01448	.01130	.01392	.01513	.01359	.01068	.01097	.01099	.01308
4 Children	.00769	.01201	.00822	.00848	.00803	.00851	.00761	.00597	.00596	.00615	.00743
5+ Children	.00516	.01842	.00743	.00848	.00964	.00638	.00358	.00503	.00376	.00439	.00387
35 to 44 years of age											
0 Children	2.10459	2.05118	1.95449	1.87357	1.81338	2.06270	2.07465	1.93709	2.34959	2.14915	2.42589
1 Child	.06602	.06327	.07748	.04521	.05729	.06370	.07214	.05154	.05204	.06306	.06635
2 Children	.04747	.03764	.05987	.06500	.04390	.04388	.05280	.04148	.03762	.04351	.04552
3 Children	.02939	.03684	.04108	.03674	.03748	.03191	.02872	.02420	.02288	.02395	.02599
4 Children	.01650	.02082	.02309	.01978	.02088	.01793	.01615	.01351	.01285	.01340	.01453
5+ Children	.01936	.06407	.03287	.01978	.03159	.02857	.01253	.01257	.01348	.01516	.01114
45 to 54 years of age											
0 Children	2.13417	1.77324	2.31996	2.64503	1.99541	1.97938	2.10704	1.95029	2.41103	2.32845	2.46221
1 Child	.10773	.08490	.12639	.11304	.09209	.10588	.10927	.10025	.09812	.11470	.11204
2 Children	.06450	.08650	.07317	.07065	.05729	.06406	.06382	.06662	.06207	.06350	.06280
3 Children	.03087	.07689	.03952	.02543	.03801	.03926	.02434	.02828	.02884	.02615	.02373
4 Children	.01737	.04325	.02230	.01413	.02142	.02206	.01368	.01571	.01599	.01472	.01340
5+ Children	.02436	.09611	.03561	.03674	.04176	.04236	.01288	.01666	.01661	.01208	.01033

TABLE 6–4 (Continued)

	Canada	Nfld.	N.S.	P.E.I.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
						Percentages					
Males Without Spouse (Cont'd)											
55 to 64 years of age											
0 Children	2.12073	1.39521	2.30077	2.78351	2.10410	1.79933	2.10253	2.10080	2.59097	2.41612	2.63091
1 Child	.09899	.12975	.11191	.11586	.10440	.10904	.09188	.09428	.10251	.09515	.08750
2 Children	.04015	.06407	.04735	.05087	.04979	.04984	.03178	.03520	.04138	.04438	.03245
3 Children	.01696	.04485	.02348	.03108	.02624	.02516	.01044	.01226	.01505	.01428	.01243
4 Children	.00957	.02563	.01291	.02261	.01499	.01416	.00584	.00691	.00846	.00813	.00694
5+ Children	.00990	.03604	.01370	.02543	.01339	.01738	.00456	.00786	.01034	.00483	.00533
65 to 74 years of age											
0 Children	4.02579	3.29019	4.75925	5.93156	4.46305	3.14545	3.77652	4.46969	5.17065	4.36664	5.81023
1 Child	.06945	.12254	.12482	.11304	.10654	.07883	.05072	.06976	.08997	.06350	.05925
2 Children	.01592	.03604	.03522	.03108	.03052	.01793	.01106	.01540	.02132	.01142	.01178
3 Children	.00521	.01522	.01017	.01696	.00696	.00608	.00301	.00629	.00533	.00681	.00387
4 Children	.00296	.00801	.00587	.01130	.00375	.00346	.00168	.00377	.00313	.00374	.00226
5+ Children	.00212	.00561	.00470	.00282	.00428	.00225	.00128	.00189	.00376	.00220	.00161
Females Without Spouse											
15 to 24 years of age											
0 Children	1.66087	1.90540	1.83476	1.88770	1.92957	2.01554	1.37396	1.65550	1.95365	1.86197	1.25468
1 Child	.08934	.13135	.16786	.09043	.12100	.03914	.09759	.10528	.07304	.12283	.11768
2 Children	.04374	.06648	.07513	.07913	.06585	.01696	.04528	.05657	.04389	.05559	.06764
3 Children	.01220	.02243	.02386	.01130	.01927	.00480	.01230	.01697	.01034	.01692	.01760
4 Children	.00691	.01281	.01370	.00848	.01071	.00273	.00690	.00943	.00596	.00967	.01001
5+ Children	.00158	.00320	.00196	.00282	.00428	.00067	.00159	.00189	.00251	.00197	.00161
25 to 34 years of age											
0 Children	3.27093	3.74751	3.61356	3.71041	3.80131	3.96950	2.70573	3.25854	3.84868	3.66746	2.47222
1 Child	.15152	.11053	.17295	.13564	.13492	.12284	.17522	.15304	.09749	.15886	.16822
2 Children	.13275	.11453	.16630	.13847	.12743	.09214	.14579	.13733	.12320	.15425	.17096
3 Children	.08001	.10492	.11387	.09325	.09958	.05355	.08174	.08485	.07806	.10371	.09944
4 Children	.04496	.05847	.06378	.05369	.05568	.03009	.04598	.04777	.04389	.05823	.05586
5+ Children	.04005	.08570	.07943	.05369	.07174	.02972	.03496	.04462	.04514	.04329	.04294
35 to 44 years of age											
0 Children	1.59882	1.09086	1.58433	1.28013	1.53605	2.30194	1.40838	1.26708	1.17589	1.11029	1.31861
1 Child	.26985	.13135	.28525	.18651	.21255	.22866	.30113	.27435	.21348	.27378	.33256
2 Children	.22445	.13936	.22069	.15260	.20559	.18088	.23807	.25078	.19875	.24016	.30721
3 Children	.13793	.12494	.17647	.17238	.14884	.12612	.13074	.15587	.14013	.15754	.15223
4 Children	.07758	.07048	.09939	.09608	.08352	.07093	.07356	.08768	.07900	.08855	.08556
5+ Children	.10034	.24188	.15691	.19216	.18150	.12964	.06749	.09742	.10314	.08899	.06909

Females Without Spouse (Cont'd)											
45 to 54 years of age											
0 Children	2.02950	1.22701	2.01241	1.81704	1.98042	2.57909	2.04411	1.76645	1.35676	1.30935	1.72285
1 Child	.43870	.29794	.45468	.33911	.36728	.36006	.47241	.49213	.42697	.44165	.55001
2 Children	.24325	.23067	.25199	.23172	.25271	.24646	.23204	.27120	.22007	.24873	.26588
3 Children	.11156	.16499	.13734	.16108	.13492	.14533	.08737	.11156	.10502	.10064	.09024
4 Children	.06276	.09291	.07708	.09043	.07603	.08175	.04913	.06254	.05925	.05669	.05085
5+ Children	.06760	.20584	.09587	.11869	.10815	.12393	.03319	.04462	.05267	.04175	.02728
55 to 64 years of age											
0 Children	2.80959	1.91900	2.97301	3.08305	2.82849	2.86524	3.15968	2.66679	1.90035	1.94019	2.65593
1 Child	.33679	.44932	.34942	.33346	.37103	.35714	.32990	.33783	.32415	.31685	.29042
2 Children	.10198	.16179	.12678	.12717	.12796	.14314	.07980	.08296	.09436	.08943	.06490
3 Children	.03380	.06888	.03796	.05369	.05033	.05896	.02138	.02451	.02915	.02043	.01437
4 Children	.01904	.03925	.02152	.02826	.02837	.03319	.01204	.01383	.01630	.01165	.00807
5+ Children	.00920	.02643	.01409	.00565	.01499	.01848	.00305	.00974	.00878	.00417	.00355
65 to 74 years of age											
0 Children	6.46597	5.93884	7.84341	9.87933	7.55656	5.61659	7.30119	6.42060	4.71076	4.65734	6.94559
1 Child	.12230	.25549	.23360	.25716	.19649	.12563	.10277	.13199	.12884	.09910	.09057
2 Children	.01899	.04485	.04735	.04239	.02998	.01963	.01456	.02137	.02100	.01538	.01227
3 Children	.00434	.01041	.01291	.01130	.00643	.00347	.00314	.00534	.00564	.00308	.00500
4 Children	.00249	.00641	.00743	.00848	.00375	.00195	.00177	.00314	.00314	.00176	.00291
5+ Children	.00167	.00641	.00391	.01130	.00535	.00091	.00128	.00220	.00282	.00066	.00145
Couples, Family Head											
15 to 24 years of age											
0 Children	1.09031	.94909	1.05334	.81668	1.07025	1.07794	1.14721	1.10839	.99876	1.25992	.89418
1 Child	1.06834	1.48331	1.27052	1.08797	1.26300	1.00196	1.08893	.99745	.99626	1.22652	.90000
2 Children	.47899	.78651	.62959	.53975	.63123	.37119	.50122	.43745	.45550	.57744	.47188
3 Children	.09881	.21305	.14908	.15542	.16222	.06613	.10768	.08831	.08621	.10657	.09331
4 Children	.05555	.11934	.08413	.08760	.09102	.03720	.06055	.04965	.04828	.05998	.05247
5+ Children	.00687	.02162	.01174	.00848	.01553	.00480	.00717	.00754	.00439	.00549	.00549
25 to 34 years of age											
0 Children	2.39254	1.56660	1.56516	1.25187	1.48304	2.61106	2.63168	2.21081	1.81916	2.42051	2.15500
1 Child	3.38053	2.94019	2.50856	2.01486	2.44515	3.90331	3.55291	2.99016	2.62952	3.40709	2.73956
2 Children	4.19298	3.72509	3.43826	2.89655	3.35265	4.24356	4.34890	3.98259	3.87595	4.94430	3.94241
3 Children	2.49067	3.09077	2.40448	2.12225	2.69250	2.55922	2.41530	2.30602	2.37466	2.95028	2.27527
4 Children	1.40101	1.73800	1.35269	1.19535	1.51463	1.43958	1.35859	1.29694	1.33577	1.65960	1.27986
5+ Children	.91497	2.35631	1.08309	2.23209	1.55961	1.13082	.75403	.68948	.77588	.85803	.58569

TABLE 6-4 (Concluded)

	Canada	Nfld.	N.S.	P.E.I.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
						Percentages					
Couples, Family Head (Cont'd)											
35 to 44 years of age											
0 Children	1.51735	1.18536	1.19304	.92407	1.07079	1.51787	1.75886	1.30763	1.03889	1.25508	1.55107
1 Child	2.22734	1.67313	1.95215	1.30839	1.81231	2.18299	2.57397	2.04708	1.64016	1.95843	2.07622
2 Children	4.08636	2.60540	3.19097	2.34549	3.10690	3.47919	4.71364	4.31350	3.81232	4.30291	4.33906
3 Children	3.45760	3.20529	3.10097	2.66765	3.24985	3.44794	3.44107	3.57940	3.72641	3.88324	3.33558
4 Children	1.94492	1.80288	1.74437	1.50055	1.82784	1.93950	1.93563	2.01345	2.09597	2.18430	1.87636
5+ Children	2.64279	6.20475	2.86463	3.56346	4.30083	4.00293	1.80064	2.09704	2.38124	2.29769	1.40852
45 to 54 years of age											
0 Children	2.57094	1.77805	2.38882	1.93291	2.17103	2.12774	3.00779	2.46504	2.19409	2.25198	3.02950
1 Child	2.67453	2.09922	2.58643	1.99509	2.48690	2.20900	2.99048	2.94271	2.69065	2.59234	2.92053
2 Children	2.88186	2.14567	2.48273	2.31441	2.37822	2.45309	3.12427	3.35219	3.06057	2.99731	3.21531
3 Children	1.86600	2.19693	1.85824	1.98095	1.89798	2.02246	1.69602	2.00905	2.18814	1.95447	1.68635
4 Children	1.04962	1.23582	1.04553	1.11340	1.06758	1.13763	.95403	1.13007	1.23075	1.09929	.94859
5+ Children	1.67862	4.34901	1.86997	2.77221	2.92540	2.92530	.91619	1.28563	1.50630	1.19839	.73631
55 to 64 years of age											
0 Children	4.35600	3.05712	3.71766	3.78388	3.68405	3.59656	5.04021	4.67459	4.34021	4.10165	4.66919
1 Child	1.75931	1.76043	1.62424	1.84531	1.72022	1.70379	1.76139	2.04959	2.02042	1.83120	1.62518
2 Children	.93620	1.10527	.87179	1.00885	.99798	1.02810	.82856	1.08796	1.14423	.98152	.83607
3 Children	.46070	.81534	.51063	.72343	.61517	.63856	.31627	.46573	.57713	.45725	.30140
4 Children	.25914	.45893	.28721	.40693	.34640	.35915	.17792	.26178	.32446	.25730	.16951
5+ Children	.34216	.93548	.40420	.68952	.69387	.60993	.15198	.27120	.35487	.26719	.13851
65 to 74 years of age											
0 Children	5.83810	5.48713	5.93822	7.26538	6.30320	4.50559	5.82765	7.35961	7.98732	5.77158	7.38357
1 Child	.55124	.96912	.76418	1.11623	.86520	.55304	.43112	.68697	.82416	.57810	.45557
2 Children	.18194	.35080	.27156	.35889	.31428	.20173	.12282	.21338	.28590	.18940	.14884
3 Children	.06940	.16819	.11699	.16955	.14723	.08230	.03895	.08799	.10314	.07119	.04924
4 Children	.03902	.09451	.06574	.09326	.08299	.04631	.02191	.04965	.05800	.03999	.02761
5+ Children	.03816	.13375	.07239	.10173	.09958	.04935	.01717	.03865	.05266	.04241	.01856
Total	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000	100.00000

(a) Based on a 1961 total population of 18,238,247 persons.

Source: Preliminary tabulations from the Dominion Bureau of Statistics plus adjustments noted in text.

TABLE 6-5

ESTIMATED PER CAPITA EXPENSE, ALL HCX SERVICES, CANADA AND PROVINCES, 1961

Province	Estimated Per Capita Expense	
	Model I	Model II
	(dollars)	
Canada	31.33	31.72
Newfoundland	28.08	28.38
Prince Edward Island	30.35	30.73
Nova Scotia	30.94	31.17
New Brunswick	29.88	30.13
Quebec	29.60	30.01
Ontario	32.37	32.53
Manitoba	32.78	33.04
Saskatchewan	31.88	32.14
Alberta	31.70	31.86
British Columbia	33.32	33.35

Source: Tables 6–3 and 6–4.

Similarly medical services in 1961 were not priced in Manitoba as they were in other parts of Canada nor are they priced the same way today even in Manitoba.[1] Attitudes towards medical care, on the part of both physicians and patients, vary throughout different regions of the country. Furthermore, experience with prepayment coverage can be expected to condition subscribers over time to the "need" for medical services in a way that would not immediately be apparent in the behaviour of other persons receiving coverage without this prior experience. Finally, these single-cost measures assume full coverage of the provincial populations considered. At present, portions of these populations, including in many cases welfare recipients, members of the Armed Forces, Eskimos, Indians, and institutionalized persons, already receive medical care at public expense. These measures should not, therefore, be interpreted as cost estimates of any actual extension of publicly supported care to the full provincial populations without careful consideration of the demography of those segments to which publicly supported medical care is not now available. The cost measures provided here are appropriate in this latter context only to the extent that excluded groups do not differ significantly in family structure from the total provincial populations or are sufficiently small in relative terms so that such differences are quantitatively unimportant.

[1] The Manitoba Medical Association revised its schedule of fees effective July 1962.

The statistical models reported above were also applied to four other categories of medical expense: in-hospital services, house and office calls, laboratory and X-ray services, and all services except surgery, maternity, and well-baby care.[1] Regression coefficients obtained for these four additional dependent variables are available, with t-ratios, in Tables 6–6 and 6–7. These coefficients in turn permit a breakdown of the per capita cost of all medical expense, as indicated by Table 6–8. This table compares per capita estimates, based on the family structure of the Canadian population, of the cost of all services with the estimated cost of each of these sub-classes of medical services. This breakdown follows institutional practice. Contracts are frequently rewritten to differentiate between in-hospital services, home and office calls, diagnostic services, and surgical procedures including obstetrics.[2] In interpreting Table 6–8 it should be borne in mind that in-hospital services here include all services that might have been performed in hospital. The figure shown, therefore, is an upper limit. Furthermore, well-baby care is not entirely a hospital service and so tends to increase the apparent proportion of all in-hospital care accounted for by surgical and obstetrical procedures.

This analysis, and the Manitoba data, also permit an examination of subscriber location and of exposure to prepayment as factors affecting the utilization of medical services. The membership data released to the Royal Commission on Health Services indicated, for each individual contract, the month and year that contract first became effective. Similarly, for each claim incurred, the township in which the service was rendered was available from the M.M.S. record of claims. However, the actual location of the residence of the contract-holder was not available, nor was there information provided regarding the township in which services would have been rendered in the case of contracts for which there were no claims in 1961.[3] This required a separate and somewhat less satisfactory procedure for testing for the presence of an urban-rural effect. That procedure is outlined later in this chapter.

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[1] These categories are operationally defined in Chapter 5, see pages 74 to 76.

[2] In Table 6–8 an entry for surgery, maternity, and well-baby care can be derived by subtracting from the corresponding estimate for all medical services the cost of all services except surgery, maternity, and well-baby care, as indicated. Well-baby care is not generally considered a maternity benefit. It is included here only because there would appear to be substantial and socially desirable incentives created for subscribers or policyholders were this to be the case. In part this analysis was developed to provide information relating to the medical costs of alternative degrees of public support for these categories of coverage. Well-baby care was included as a maternity benefit, contrary to institutional procedures, in the belief that it would perhaps be best to include well-baby care in any public program of support for maternity and obstetrical services.

[3] The statistical records of M.M.S. originally contained provision for entry of a code indicating the township of residence of the contract-holder on the master membership card. M.M.S. found it difficult, in view of frequent changes of address, to keep this code current. It was dropped after experience indicated that the code was frequently misleading. Subsequently, it was entered only in the recording of claims. Hence if no 1961 claims were registered against a particular contract, no information was available to the Royal Commission regarding the location of that subscriber. (The billing address of the subscriber or his group was, of course, known to M.M.S. This information was not coded for entry in the master membership record.)

TABLE 6–6

REGRESSION COEFFICIENTS AND T-RATIOS, IN-HOSPITAL SERVICES, SERVICES OTHER THAN SURGERY AND MATERNITY, HOME AND OFFICE CALLS, AND LABORATORY AND X-RAY SERVICES,

MANITOBA MEDICAL SERVICE,
MODEL I

Variable	In-hospital Services		Services other than Surgery and Maternity[a]		Home and Office Calls		Laboratory and X-Ray Services	
	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio
1. *Single Male 15–24*								
Intercept (a_0)	6.85	–	14.68	–	8.16	–	3.83	–
Children Present								
a_1	-6.85	-0.23	-6.68	-0.26	-0.16	-0.01	-3.83	-0.38
a_2	-6.85	-0.23	-6.68	-0.26	-0.16	-0.01	-3.83	-0.38
2. *Single Male 25–34*								
Intercept (a_0)	6.39	–	17.51	–	9.42	–	5.22	–
Children Present								
a_1	-6.39	-0.56	7.65	0.55	10.75	1.46	-5.22	-0.92
a_2	38.27*	2.69	61.02*	3.53	10.56	1.16	23.45*	3.34
3. *Single Male 35–44*								
Intercept (a_0)	9.58	–	21.82	–	10.73	–	6.78	–
Children Present								
a_1	21.32	1.61	62.98*	4.54	29.57*	4.50	16.02*	2.84
a_2	-5.57	-0.33	-40.87*	-2.29	-19.03*	-2.25	-6.07	-0.84
a_3	14.77	0.87	64.87*	3.64	37.23*	4.40	2.97	0.41
a_4	21.57	0.79	-20.13	-0.70	-7.50	-0.55	10.63	0.91
a_5	-28.67	-0.75	-32.67	-0.82	-39.00	-2.06	-24.33	-1.50
4. *Single Male 45–54*								
Intercept (a_0)	14.14	–	29.17	–	12.41	–	9.19	–
Children Present								
a_1	1.03	0.09	33.10*	2.68	21.42*	4.13	8.24	1.78
a_2	23.36	1.27	2.14	0.11	-2.76	-0.34	2.03	0.28
a_3	-30.03	-1.12	-12.73	-0.45	-4.90	-0.41	-2.30	-0.22
a_4	261.50*	4.37	55.33	0.87	27.83	1.05	-9.17	-0.39
a_5	-230.67*	-3.86	-13.33	-0.21	18.50	0.70	-2.33	-0.10

TABLE 6–6 (Continued)

Variable	In-hospital Services		Services other than Surgery and Maternity(a)		Home and Office Calls		Laboratory and X-Ray Services	
	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio
5. Single Male 55–64								
Intercept (a_0)	18.93	–	35.76	–	16.86	–	9.46	–
Children Present								
a_1	–3.43	–0.18	15.84	0.84	4.24	0.41	15.04*	2.21
a_2	–15.50	–0.47	6.00	0.19	–7.70	–0.43	5.70	0.49
a_3	–	–	–57.60	–0.89	–13.40	–0.37	–30.20	–1.29
a_4	–	–	12.00	0.14	9.00	0.19	1.00	0.03
6. Single Male 65–74								
Intercept (a_0)	32.66	–	52.80	–	24.33	–	11.77	–
Children Present								
a_1	23.05	0.65	63.20	1.84	4.39	0.21	5.37	0.60
a_2	–48.71	–0.49	–40.00	–0.41	6.29	0.11	16.86	0.67
7. Single Female 15–24								
Intercept (a_0)	7.83	–	21.99	–	12.76	–	5.54	–
Children Present								
a_1	21.06	1.85	33.35*	2.99	23.24*	3.66	9.90*	2.13
a_2	1.11*	0.07	–13.33	–0.79	–5.86	–0.61	–11.02	–1.57
a_3	111.50	5.22	174.00*	8.29	72.61	0.61	57.07*	6.54
8. Single Female 25–34								
Intercept (a_0)	8.15	–	26.00	–	14.37	–	7.08	–
Children Present								
a_1	7.81	1.74	26.43*	4.73	15.15*	4.59	8.79*	4.02
a_2	5.37	0.87	13.71	1.79	10.94*	2.42	–2.45	–0.82
a_3	–5.45	–0.58	–9.54	–0.82	–6.12	–0.89	–5.43	–1.19
a_4	73.19*	5.55	25.64	1.56	17.58	1.82	7.33	1.14
a_5	–62.08*	–2.30	–2.75	–0.08	7.08	0.36	–10.33	–0.79
9. Single Female 35–44								
Intercept (a_0)	13.71	–	29.79	–	16.19	–	7.65	–
Children Present								
a_1	3.17	0.57	12.47*	2.19	4.17	1.29	5.85*	3.12
a_2	17.47*	2.57	22.07*	3.16	14.04*	3.54	2.88	1.26
a_3	–12.69	–1.52	–6.07	–0.71	1.88	0.39	–7.28*	–2.57
a_4	5.02	0.38	11.47	0.85	3.40	0.45	9.13*	2.06
a_5	52.92*	2.71	42.87*	2.14	11.52	1.01	1.93	0.29

10. *Single Female 45–54*								
Intercept (a_0)	16.54	–	36.34	–	17.98	–	10.46	–
Childrent Present								
a_1	10.54	1.76	21.28*	4.22	10.39*	4.20	7.65*	3.87
a_2	-1.35	-0.16	-3.18	-0.45	0.64	0.19	-5.34	-1.94
a_3	3.24	0.25	30.72*	2.85	11.26*	2.13	13.93*	3.29
a_4	29.78	0.90	69.08*	2.47	27.98*	2.04	6.80	0.62
a_5	-58.75	-1.09	-128.75*	-2.83	-57.75*	-2.59	-33.50	-1.88
11. *Single Female 55–64*								
Intercept (a_0)	18.31	–	42.25	–	20.50	–	11.53	–
Children Present								
a_1	49.95*	4.13	11.53	1.00	10.98*	2.00	-0.57	-0.14
a_2	-22.43	-0.79	29.39	1.09	-0.81	-0.26	19.54*	2.04
a_3	-45.83	-0.68	1.83	0.03	54.33	1.77	-30.50	-1.33
12. *Single Female 65–74*								
Intercept (a_0)	20.93	–	46.32	–	23.00	–	10.92	–
Children Present								
a_1	-20.93	-0.32	105.68	1.63	18.00	0.56	24.08	1.11
13. *Couples, Head 15–24*								
Intercept (a_0)	14.04	–	29.93	–	16.61	–	9.07	–
Children Present								
a_1	39.48*	13.34	23.09*	10.30	14.39*	11.91	1.71	1.94
a_2	27.18*	6.79	16.02*	5.28	10.48*	6.41	1.27	1.07
a_3	28.51*	3.39	13.77*	2.16	3.77	1.10	1.53	0.61
a_4	-23.83	-1.35	-17.56	-1.32	-11.50	-1.60	-5.21	-0.99
a_5	19.63	0.49	-2.25	-0.08	5.25	0.32	4.29	0.36
14. *Couples, Head 25–34*								
Intercept (a_0)	16.26	–	40.55	–	21.46	–	12.75	–
Children Present								
a_1	31.97*	16.70	17.94*	10.82	12.24*	13.06	0.70	1.10
a_2	6.00*	3.54	13.96*	9.51	10.25*	12.35	1.68*	2.98
a_3	11.54*	6.30	9.50*	6.00	5.15*	5.74	1.26*	2.07
a_4	11.73*	4.26	8.49*	3.57	5.17*	3.83	0.67	0.74
a_5	16.14*	3.86	11.58*	3.20	4.11*	2.01	2.26	1.63

TABLE 6–6 (Concluded)

Variable	In-hospital Services		Services other than Surgery and Maternity(a)		Home and Office Calls		Laboratory and X-Ray Services	
	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio
15. *Couples, Head 35–44*								
Intercept(a_0)	23.07	–	52.84	–	26.56	–	17.52	–
Children Present								
a_1	8.35*	3.21	15.73*	6.29	8.93*	6.60	2.64*	2.67
a_2	5.18*	2.67	11.06*	5.92	8.14*	8.05	0.39	0.53
a_3	11.17*	6.67	6.65*	4.13	4.86*	5.58	0.19	0.29
a_4	10.92*	5.03	2.61	1.25	1.78	1.58	- 1.03	-1.25
a_5	20.15*	7.29	8.95*	3.37	5.04*	3.51	0.58	0.56
16. *Couples, Head 45–54*								
Intercept(a_0)	29.86	–	66.56	–	31.13	–	21.35	–
Children Present								
a_1	3.11	1.63	13.50*	6.98	7.78*	8.27	2.41*	2.99
a_2	5.15*	2.67	5.77*	2.94	4.85*	5.09	- 0.26	-0.31
a_3	7.19*	2.92	7.18*	2.87	4.60*	3.78	0.98	0.94
a_4	5.25	1.44	- 1.35	-0.37	-0.28	-1.55	- 1.85	-1.20
a_5	17.70*	3.78	10.53*	2.21	3.55	1.53	2.62	1.32
17. *Couples, Head 55–64*								
Intercept(a_0)	32.12	–	72.48	–	34.02	–	22.59	–
Children Present								
a_1	7.22*	2.87	10.81*	4.40	6.03*	5.13	2.33*	2.34
a_2	1.64	0.39	6.50	1.59	4.24*	2.16	- 0.03	-0.02
a_3	15.84*	2.32	4.78	0.72	6.17	1.94	- 2.50	-0.93
a_4	-12.65	-1.10	- 5.54	-0.50	-7.23	-1.35	4.14	0.91
a_5	47.88*	3.25	- 2.30	-0.16	4.77	0.70	-11.65*	-2.01
18. *Couples, Head 65–74*								
Intercept(a_0)	38.58	–	82.54	–	39.53	–	22.81	–
Children Present								
a_1	- 1.17	-0.1[illegible]	5.36	0.77	3.88	1.16	1.85	0.72
a_2	-11.87	-0.76	-17.53	-1.07	-8.01	-1.02	- 4.90	-0.81
a_3	15.86	0.60	20.62	0.74	16.33	1.23	9.58	0.94
a_4	45.10	1.08	-12.83	-0.29	1.10	0.05	-22.83	-1.42
a_5	-50.25	-0.90	14.58	0.25	-6.58	-0.23	21.25	0.99

(a) Well-baby care included in maternity.

* Significantly different from zero at the 95 per cent confidence level.

TABLE 6–7

REGRESSION COEFFICIENTS AND T-RATIOS, IN-HOSPITAL SERVICES, SERVICES OTHER THAN SURGERY AND MATERNITY, HOME AND OFFICE CALLS, AND LABORATORY AND X-RAY SERVICES, MODEL II

Variable	In-hospital Services		Services other than Surgery and Maternity[a]		Home and Office Calls		Laboratory and X-Ray Services	
	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio
Intercept (a_0)	23.83	–	43.51	–	23.05	–	12.84	–
Spouse Absent								
a_1	−14.61*	−16.06	−29.86*	−34.18	−15.43	−34.13	− 9.66	−28.37
a_2	−12.82*	−17.58	−25.56*	−36.49	−11.70	−32.28	− 9.13	−33.45
Children Present								
a_3	14.14*	16.42	13.93*	16.85	8.53*	19.92	1.80*	5.60
a_4	5.91*	6.60	10.48*	12.17	7.80*	17.51	0.61	1.82
a_5	9.97*	10.09	7.85*	8.28	5.10*	10.38	0.67	1.80
a_6	9.20*	6.58	3.11*	2.31	2.04*	2.93	− 0.62	− 1.19
a_7	18.09*	9.71	8.63*	4.82	4.02*	4.34	0.86	1.24
Age of Family Head								
a_8	5.08*	5.30	4.19*	4.55	3.09*	6.48	0.67	1.87
a_9	− 4.27*	− 4.33	10.92*	11.54	4.12*	8.41	4.84*	13.12
a_{10}	− 1.23	− 1.28	19.56*	21.17	5.96*	12.46	8.12*	22.56
a_{11}	6.57*	6.46	25.88*	26.47	9.46*	18.70	8.86*	23.27
a_{12}	13.82*	12.76	35.03*	33.69	14.64*	27.21	8.80*	21.72

[a] Well-baby care included in maternity.

* Significantly different from zero at the 95 per cent confidence level.

TABLE 6–8

ESTIMATED PER CAPITA EXPENSE, SELECTED CLASSES OF MEDICAL EXPENSE, CANADA, 1961

Medical Expense Class	Estimated per Capita Expense	
	Model I	Model II
	(dollars)	
In-hospital Services	11.86	11.93
All Services other than Surgery and Maternity[a]	21.12	21.27
Home and Office Calls	11.07	10.91
Laboratory and X-ray Services	5.40	5.42

[a] Well-baby care included in maternity.

Source: Tables 6–4, 6–6 and 6–7.

Estimation of the degree to which the utilization of services tended to increase with increased tenure of M.M.S. membership was more straightforward. In this case primary reliance was placed on the more aggregative Model II. This model, as defined above, was expanded by the addition of five dummy variables, each taking the value one or zero, depending upon the year of effective date of the initial membership contract in question.[1] The model in this case took the following form:

$$Y = a_0 + a_1 X_1 + a_2 X_2 + \ldots a_{17} X_{17} + u,$$

where Y and X_1 through X_{12} are defined as above, with the additional variables:

X_{13} equal to 1 if the membership contract was first effective in 1959, and 0 otherwise;

X_{14} equal to 1 if the membership contract was first effective in 1958, and 0 otherwise;

X_{15} equal to 1 if the membership contract was first effective in 1957, and 0 otherwise;

X_{16} equal to 1 if the membership contract became first effective between 1956 and 1952 inclusive and 0 otherwise, and

[1] Model II was employed here for technical reasons. The presence of these five additional variables further segments, for purposes of estimation, the M.M.S. membership into classes by year of initial membership. Model I, even without these added variables, results in estimates based on very few contracts in particular instances. The use of five dummy variables to estimate the growth pattern in the utilization of M.M.S. services would substantially worsen this picture, especially in view of the tendency for the effective dates of membership to be heavily concentrated in the more recent years. Preliminary testing was however based on Model I; see footnote 3, page 143.

X_{17} equal to 1 if the membership contract became effective prior to 1952, and 0 otherwise.[1]

The a's, of course, are parameters; u is the usual error term. In effect, a_{13} through a_{17} become indicators of the amount by which the regression surface is shifted by the experience of from one to ten or more years' prior experience with M.M.S. coverage.[2]

Table 6–9 contains estimated coefficients and t-ratios for this expanded model. As before, the model was fitted to the full plan HCX membership, separately for all medical expense, in-hospital expense, expense other than surgery maternity and well-baby care, house and office calls, and laboratory and X-ray services. The intercept a_0 is an estimate in each case of the medical expense of a couple, head aged 15–24 years, with no children, for couples whose membership became effective in 1960. The first added coefficient a_{13} estimates the amount by which the a_0 should be increased to estimate the cost of a corresponding couple whose membership became effective in 1959.

Table 6–10 translates these coefficients into single measures of cost for each of the five categories of medical expense and for each of the five defined periods of prior M.M.S. coverage. These summary measures are based on separate estimates derived from the coefficients of Table 6–9 for each of the 108 classes of family, weighted by the relative quantitative representation of each family type in the Canadian population, as shown by column one of Table 6–4. This measure was selected principally for illustrative purposes. The information available from Tables 6–4 and 6–9 is sufficient to permit the reader to derive corresponding estimates for any of the provinces or for any other population that can be defined in terms of this basic classification of families.[3]

This method of estimating does not include, in the increased utilization shown, the effect of either increased age or family size, and the higher cost shown for families with longer tenure in M.M.S. is not, therefore, in any way a consequence of either of these factors. It results only from the fact that individuals of the same age in the same kinds of families used services more intensively the longer they had participated in the prepayment plan. The effect of age and family size can be seen from Table 6–3 or, alternatively, from coefficients a_1 through a_{12} in Table 6–9. It is the added effect of this learning process – that more services are employed the more familiar those services are, *other things being equal* – which is highlighted by the estimates of Table 6–10.

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[1] The first M.M.S. contracts were written in 1944. If X_{17} is 1, the contract was in force for a period of from ten to eighteen years.

[2] Claims were processed for all contracts in force as of 1960 or earlier. Contracts for which X_{13} is 1 were, therefore, contracts which had been in force for at least one full year, but less than two full years, prior to 1961.

[3] A similar application of the less aggregative Model I produced the following estimates for all services by year of effective date: $25.79 (1960); $28.56 (1959); $30.17 (1958); $30.76 (1957); $31.99 (1952–56); $33.44 (pre-1952).

TABLE 6–9

REGRESSION COEFFICIENTS AND T-RATIOS, BY CLASS OF MEDICAL EXPENSE, MODEL II, MANITOBA MEDICAL SERVICE

Variable	All Medical Services		In-hospital Services		All Services other than Surgery and Maternity[a]		Home and Office Calls		Laboratory and X-Ray Services	
	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio
Intercept (a_0)	58.47	–	20.99	–	38.82	–	20.97	–	11.66	–
Spouse Absent										
a_1	−42.62*	−31.82	−14.39*	−15.79	−28.74*	−32.94	−14.89*	−32.98	−9.37*	−27.53
a_2	−36.20*	−33.73	−12.69*	−17.39	−24.94*	−35.69	−11.41*	−31.53	−8.97*	−32.89
Children Present										
a_3	28.28*	22.34	14.15*	16.44	13.93*	16.90	8.53*	19.99	1.80*	5.58
a_4	15.21*	11.54	5.90*	6.58	9.88*	11.51	7.50*	16.89	0.46	1.37
a_5	16.94*	11.67	10.00*	10.12	7.70*	8.14	5.02*	10.25	0.62	1.70
a_6	11.65*	5.66	9.26*	6.62	3.67*	2.74	2.31*	3.34	−0.49	− 0.94
a_7	24.58*	8.97	18.07*	9.70	8.86*	4.97	4.12*	4.46	0.92	1.33
Age										
a_8	4.12*	2.85	4.19*	4.26	0.22	0.24	1.14*	2.34	−0.28	− 0.76
a_9	− 1.63	− 1.08	− 5.11*	− 4.97	4.41*	4.47	0.96	1.88	3.22*	8.36
a_{10}	7.27*	4.84	− 2.06*	− 2.02	11.80*	12.07	2.20*	4.35	6.16*	16.17
a_{11}	18.77*	11.78	5.68*	5.24	17.46*	16.83	5.38*	10.03	6.74*	16.66
a_{12}	31.56*	18.69	12.91*	11.24	26.32*	23.93	10.44*	18.34	6.59*	15.35
Effective Date										
a_{13}	7.15*	4.79	3.67*	3.61	3.62*	3.73	1.31*	2.61	0.99*	2.60
a_{14}	11.31*	7.06	5.80*	5.33	6.00*	5.75	2.67*	4.95	1.38*	3.39
a_{15}	12.06*	7.64	4.69*	4.37	8.08*	7.86	3.46*	6.50	2.23*	5.56
a_{16}	15.92*	12.70	4.16*	4.87	12.46*	15.27	6.04*	14.29	2.94*	9.24
a_{17}	21.30*	15.75	3.22*	3.50	18.78*	21.32	8.76*	19.22	4.89*	14.23

(a) Well-baby care included in maternity.

* Significantly different from zero at the 95 per cent confidence level.

TABLE 6–10

ESTIMATED PER CAPITA EXPENSE, SELECTED CLASSES OF MEDICAL EXPENSE, BY YEAR OF EFFECTIVE DATE, CANADA, 1961

Medical Expense Class	Estimated per Capita Expense
	(dollars)
All Services	
Effective Date 1960	26.80
1959	29.27
1958	30.70
1957	30.96
1956–1952	32.29
Prior to 1952	34.15
In-hospital Services	
Effective Date 1960	10.70
1959	11.97
1958	12.70
1957	12.32
1956–1952	12.13
Prior to 1952	11.81
All Services other than Surgery & Maternity[a]	
Effective Date 1960	17.52
1959	18.77
1958	19.59
1957	20.31
1956–1952	21.82
Prior to 1952	24.00
Home & Office Calls	
Effective Date 1960	9.43
1959	9.88
1958	10.35
1957	10.62
1956–1952	11.51
Prior to 1952	12.45
Laboratory & X-ray	
Effective Date 1960	4.48
1959	4.82
1958	4.96
1957	5.24
1956–1952	5.49
Prior to 1952	6.17

(a) Well-baby care included in maternity.

Source: Tables 6–4 and 6–9.

For this reason it is not surprising to find no great increase in the utilization of in-hospital services as tenure increases. Most in-hospital services are unpleasant. On the other hand, the increases in other than hospital services, in services other than surgery and maternity and in laboratory and X-ray services, are striking. It is clear that the quantity of medical services demanded (and in the case of M.M.S., received) does tend to increase if those services become available without marginal charge. Not all medicine is that unpleasant.

Estimation of the impact of rural as opposed to urban living was undertaken with less than fully satisfactory data. Information regarding the location of families was available to the Royal Commission only for those contracts with claims in 1961. Under these circumstances, it was feasible to estimate family expenses by location only for *families with claims* in 1961. It was not, however, possible to determine the geographic location of zero-expense families, and no estimate of any tendency for the proportion of families with zero expense to vary between the urban and rural sectors could be made from the M.M.S. data. This is a significant shortcoming. It is not unreasonable to suppose that any over-all urban-rural differential in the utilization of medical services may be substantially affected by a relatively greater representation of zero-expense families in the rural population.

With this limitation, the available M.M.S. data were processed under the assumption that the proportion of zero-expense families was equal throughout the rural and urban populations. For this purpose, a family was defined as urban if all claims submitted during 1961 bore the Winnipeg code.[1] All other families, including those for which mixed "Winnipeg" and other claims were submitted, were defined as "rural". This is a narrow definition. The M.M.S. subscribers are heavily represented, for example, in the urban population of Brandon. On the other hand, it is also likely that many nearby residents of the Winnipeg area are here classified as rural, whereas in any behavioural or cultural sense, an urban definition would be more appropriate.

The full seventeen-variable regression Model II, with an eighteenth variable added, was applied to M.M.S. contracts with claims in 1961. In this case, the regression model took the form

$$Y = a_0 + a_1 X_1 + a_2 X_2 + \ldots a_{18} X_{18} + u,$$

with X_1 through X_{17} as previously defined and with X_{18} defined as 0 if the household claims consistently indicated a Winnipeg residence and as 1 if any or all claims contained a non-Winnipeg code.[2] Once again this model was fitted independently to the five classes of medical service. Table 6–11 contains the resulting coefficients by class of medical service. Coefficients on X_1 through X_{17}, of course, differ, as does a_0, from the estimates of Table 6–9. The earlier estimates relate to the medical expenses of families *with* claims, and for this reason consistently imply higher average costs. On the other hand, the patterns display by these coefficients are of course similar, the only difference being attributable to the exclusion of zero-expense families in each category, and of the addition of rural-urban variable X_{18}.

[1] Winnipeg, for these purposes, was defined to include Brooklands, Charleswood, East Kildonian, Fort Garry, Fort Whyte, St. Boniface, St. James, St. Vital, Tuxedo, West Kildonian, North Kildonian, Old Kildonian, Norwood and Tenthon. The definition aimed at including the entire metropolitan area. Nevertheless, this definition excludes more than would in any general sense be considered the rural population of Manitoba and can be defended only in terms of computational expediency. *A priori*, a low, rather than a high, difference in measured behaviour would, therefore, be expected if in fact the utilization of medical services does tend to be lower among rural populations.

[2] As before, X_1, and X_2 define families headed by single males or females, X_3 through X_7 the number of children, X_8 through X_{12}, the age of the household head, and X_{13} through X_{17}, the date of the family's first participation in M.M.S. The "rurality-effect," a_{18}, is therefore estimated by this model after correction for family size, composition, age, and experience.

TABLE 6–11

REGRESSION COEFFICIENTS AND T-RATIOS, MODEL II, MANITOBA MEDICAL SERVICE, FAMILIES WITH CLAIMS ONLY, RURAL-URBAN VARIABLE ADDED

Variable	All Medical Services		In-hospital Services		All Services other than Surgery and Maternity (a)		Home and Office Calls		Laboratory and X-Ray Services	
	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio	Regression Coefficient	T-Ratio
Intercept (a_0)	67.11	–	23.15	–	44.73	–	24.09	–	14.04	–
Spouse Absent										
a_1	-32.80*	-19.95	-10.93*	- 9.57	-21.07*	-19.82	-11.33*	-20.51	-7.38*	-17.54
a_2	-32.05*	-26.11	-11.33*	-13.29	-21.64*	-27.28	- 9.49*	-23.02	-8.50*	-27.07
Children Present										
a_3	23.41*	17.05	12.53*	13.14	10.46*	11.79	6.66*	14.45	0.75*	2.15
a_4	13.99*	10.05	5.40*	5.58	9.13*	10.14	7.07*	15.11	0.29	0.81
a_5	17.62*	11.55	10.15*	9.58	8.22*	8.34	5.21*	10.18	0.86*	2.21
a_6	11.68*	5.42	9.14*	6.11	3.78*	2.71	2.29*	3.16	-0.35	- 0.64
a_7	25.66*	8.94	18.21*	9.14	9.72*	5.24	4.42*	4.58	1.39	1.89
Age										
a_8	7.57*	4.46	5.10*	4.32	3.22*	2.93	2.42*	4.24	0.81	1.87
a_9	2.38	1.35	- 4.66*	- 3.80	8.57*	7.51	2.61*	4.40	4.83*	10.70
a_{10}	11.94*	6.83	- 1.47	- 1.21	16.61*	14.70	3.84*	6.54	8.13*	18.19
a_{11}	25.77*	13.86	7.32*	5.67	23.90*	19.89	7.65*	12.25	9.20*	19.36
a_{12}	39.66*	20.10	15.48*	11.31	33.52*	26.30	13.14*	19.85	8.77*	17.40
Effective Date										
a_{13}	7.45*	4.33	4.28*	3.58	3.42*	3.07	1.16*	2.01	0.74	1.69
a_{14}	11.43*	6.25	6.41*	5.06	5.62*	4.76	2.46*	4.01	1.05*	2.25
a_{15}	11.54*	6.44	4.77*	3.84	7.57*	6.54	3.10*	5.14	1.94*	4.23
a_{16}	13.53*	9.44	3.64*	3.66	10.62*	11.47	5.22*	10.84	2.01*	5.46
a_{17}	17.45*	11.30	2.51*	2.34	15.71*	15.73	7.52*	14.49	3.28*	8.31
Rural-Urban										
a_{18}	-12.20*	-11.93	1.34	1.89	-12.46*	-18.85	- 4.15*	-12.08	-6.89*	-26.34

(a) Well-baby care included in maternity.

* Significantly different from zero at the 95 per cent confidence level.

The behaviour of this last coefficient is particularly interesting. With the exception of the case of in-hospital services, this coefficient, in spite of the crudity of the definition of the urban and rural populations considered, is highly significant statistically and is negative. For the full range of medical services, this coefficient implies average family medical costs (for families with claims) which are, for rural families, some $12 below those of corresponding urban families. This is contrary neither to expectations nor to the experience of those familiar with the operation of the service plans. In the case of in-hospital services, however, α_{18}, while statistically significant only at a relatively low level, is positive, implying if anything somewhat higher in-hospital services for rural than for urban families.[1] These two findings together suggest that while rural families, either because of attitude or inconvenience, tend to economize relative to their urban counterparts in the utilization of medical facilities, this reticence is confined to those services typicallv rendered outside and not within a hospital. There are at least two possible further interpretations. First, for major ills (i.e., those requiring hospitalization) the rural population displays utilization rates equal to those of the urban population while at the same time tending to ignore many apparently less urgent symptoms that would send an urban family to the telephone or to the doctor's office. A plausible alternative explanation is perhaps that rural families, because of the added travel associated with their more dispersed residence, may rely on professional care to a lesser degree in the case of all complaints, but when obtaining care are more frequently admitted to, and receive treatment in, a hospital where contact with physicians is more convenient for patient and doctor alike. Both interpretations probably have validity, though the innate plausibility of the latter is to some extent reduced by the very liberal definition of in-hospital services upon which these findings are grounded.

This pattern is also apparent when home and office calls, and laboratory and X-ray services are considered. The coefficients on X_{18} are again significant in both a statistical sense and an economic sense. While the estimated expense of home and office calls for a rural childless couple, head aged 15–24, is some 18 per cent below those of a corresponding urban couple, this differential in terms of the cost of laboratory and X-ray services is about 45 per cent.[2] Once more a tendency for the transfer of services from the physician's office to the hospital is suggested. But, whatever interpretation is accepted, a significant urban-rural differential is implied. Whether this represents the impact of less readily available, or less adequate, medical facilities in the rural areas of the province, or whether it reflects an attitude towards medical care influenced, as are so many attitudes and values, by environment, the fact remains that proportionately less medical care under M.M.S. has been obtained by the non-Winnipeg

[1] A safer interpretation would be that there is no significant difference between the two groups of families in this regard.

[2] The nature of this particular model is such that these percentages, being based on a young childless couple and hence a low-expense unit, overstate the relative importance of this differential in terms of average experience for the population as a whole. This latter is better judged from Table 6–12.

subscribers as a group. From the standpoint ot appraisal, it remains to be determined whether this lower quantitative standard in the rural sector implies some even as yet "unmet need", or whether the more frequent services obtained by the urban sector include some that are medically questionable. These are questions on which only the medical profession is competent to pass judgement. But the problem is real, and perhaps part of the rural-urban breech in living standards, attitudes, and conveniences, that is hopefully becoming more and more anachronistic in this century.

The coefficients of Table 6–11 relate to the family expenses of households with claims. These coefficients are converted to the now familiar *per capita* estimates for all families, based again on the family structure of the 1961 Canadian population in Table 6–12. In this conversion, each individual estimate for the 108 family categories was a weighted average of an estimate for families with claims, based directly on the coefficients of Table 6–11, and a family expense of zero for those families of that type with zero claims. The absolute amounts shown in Table 6–12 are, for this reason, less than the per-family amounts implied directly by the coefficients of Table 6–11. Approximately 12 per cent of all HCX families received no medical services from M.M.S. in 1961.

TABLE 6–12

ESTIMATED PER CAPITA EXPENSE, SELECTED CLASSES OF MEDICAL EXPENSE, BY PLACE OF RESIDENCE AND YEAR OF EFFECTIVE DATE, CANADA, 1961

Year of Effective Date	Residence	All Services	In-hospital Services	All Services other than Surgical and Maternity[a]	Home and Office Calls	Laboratory and X-Ray Services
		$	$	$	$	$
1960	Urban	27.26	10.22	18.39	9.62	5.09
	Rural	23.61	10.62	14.67	8.38	3.03
1959	Urban	29.48	11.50	19.41	9.96	5.31
	Rural	25.84	11.90	15.69	8.73	3.25
1958	Urban	30.66	12.14	20.07	10.35	5.40
	Rural	27.02	12.53	16.35	9.12	3.34
1957	Urban	30.70	11.65	20.65	10.54	5.67
	Rural	27.06	12.05	16.93	9.31	3.61
1952–1956	Urban	31.29	11.31	21.56	11.18	5.68
	Rural	27.65	11.71	17.84	9.94	3.62
Before 1952	Urban	32.46	10.98	23.08	11.86	6.06
	Rural	28.82	11.37	19.36	10.62	4.00

(a) Maternity includes well-baby care.

Source: Tables 6–4 and 6–11.

The relative crudity of the empirical division of the M.M.S. sample into the urban and rural groups in which Table 6–12 is based should, of course, be remembered. The M.M.S. population, even beyond Winnipeg, is heavily biased towards urban or suburban families, employed groups, town rather than country residents, and towards rural residents but urban workers. The estimates of Table 6–12 are, for this reason, also best interpreted as minimal indicators of the quantitative difference in the medical services received by country as opposed to town or city dwellers.

EXPERIENCE OF OTHER PLANS

The preceding part of this chapter has been based entirely on the experience of Manitoba Medical Service. Manitoba is but one province, however, and M.M.S. coverage has centered heavily in Winnipeg, a major medical center of Canada. Overall, the experience, in a purely cost sense, of M.M.S. has not been markedly different, in its comprehensive plan, from that of the Medical Services Association in British Columbia and Physicians' Services Incorporated in Ontario.[1] On the other hand, this experience is very different indeed from that of the medical service plans in the Maritime and Prairie Provinces, and in Saskatchewan in particular.

Medical Services, Inc.

As a partial check on the generality of the Manitoba experience, a small sample of corresponding information was requested from Medical Services, Incorporated, in Saskatoon. This medical prepayment plan has had a record of low, if not the lowest, cost in the provision of comprehensive care.[2] Utilization rates appear to have been markedly lower in Saskatchewan than in the neighbouring provinces of Alberta and Manitoba, or indeed the other provinces of Canada.

Medical Services, Incorporated, in 1961 issued five basic prepayment contracts: Plan X, a contract providing coverage for a single individual and issued directly to that individual; Plan A, a group contract issued to groups of from 5 to 24 employees; Plan B, a corresponding group contract issued to groups of more than 25 employees; and Plans C and K issued to community groups.[3] The benefits of these plans differed to some extent. In particular, Plans X and K contained co-insurance provisions, whereby Medical Services, Incorporated, accepted liability for only one-half of the cost of house calls, office calls, and

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[1] Annual costs per person for comprehensive coverage for 1960 were reported by Trans-Canada Medical Plans Inc. as follows: Medical Services Association, $29.37; Physicians' Services Incorporated, $26.38; Manitoba Medical Service, $27.88. See Trans-Canada Medical Plans Inc. (1960), *Brief* (August 1962), Exhibit IX.

[2] Average annual cost in 1960 of the comprehensive contract issued by Medical Services, Incorporated (Saskatoon) has been reported at $20.51. See Trans-Canada Medical Plans Inc. (1960), *ibid.*

[3] The individual contract was referred to as Plan X only in M.S.I.'s statistical accounting. Elsewhere it was known simply as the "Individual Contract." In addition to the five basic plans listed M.S.I. in 1961 also had special contracts in force providing services to students at the University of Saskatchewan and to welfare recipients in several Saskatchewan municipalities. A supplementary major medical insurance contract was also available in conjunction with Plans A and B.

diagnostic services. All plans excluded treatment for psychiatric conditions, routine health examinations, X-ray (except in connection with fractures), diagnostic aids in excess of $35 per person per year, and physiotherapy costs in excess of $15 per person per year. Specialist services were paid at the general practitioner rate in all instances other than a first referral by a general practitioner, except for those services for which only a specialist rate is indicated by the fee schedule and for services by a participating specialist in anaesthesia. None of the plans included payments for refractions or for treatment of allergy conditions. Beyond these limitations, however, the five plans provided full medical care in home, hospital, and office. In the case of Plans B, C, and K, there were no waiting period or exclusions for pre-existing conditions. Plans X and A excluded coverage of chronic or congenital conditions existing at the date of acceptance and further required a thirty-day waiting period for medical care arising from sickness (as opposed to accident), a ninety-day waiting period in the case of all surgery with waiting periods of nine months for maternity, twelve months for surgery for tonsils, adenoids, gallstones, urinary stones, tumors, new growths, varicose veins, haemorrhoids and gynaecological conditions, and twenty-four months for prosthetic, rectocele, cystocele, or repair of the cervix. As is noted below, these contracts were substantially less inclusive than the M.M.S. Plan HCX, the most significant limitations being those on the payment for specialist care and X-ray and diagnostic services and the exclusion of psychiatry, refractions, some immunizations, and the treatment of allergy conditions. On the other hand, these plans did include provision for the payment of one-half the cost of special duty nursing in-hospital for up to five days when ordered by an attending physician.

At the end of 1960 a total of 214,002 persons, excluding university students and individuals receiving medical benefits as welfare recipients, were covered by M.S.I. contracts. This coverage was distributed as follows: Plan A, 11,503; Plan B, 70,885; Plan C, 33,629; Plan K, 25,866; and Plan X, 55,825. The remaining 16,344 received coverage under a special Canadian National Railways contract.

Like many prepayment groups in Canada, M.S.I. prepared each year a statement for each subscriber with claims showing the amount paid to physicians on his behalf. In the preparation of these statements, I.B.M. cards were first punched summarizing claims for each individual contract. M.S.I., at the request of the Royal Commission on Health Services, selected a sample of approximately five hundred contracts each from the 1961 summary cards of Plans X, B, C, and D. This sample was selected according to randomly chosen terminal digits of the contract numbers. Enough digits were defined to generate a sample of more than five hundred contracts for each plan. All contracts bearing those terminal digits were included. The sample totalled 2,368 contracts for the four plans combined.

The four plans, X, K, C, and B, were included to permit comparison among comparable plans with and without co-insurance (Plans B, K, and C were identical

except for the co-insurance factor associated with Plan K) and between the more restricted individual Plan X and its counterpart with co-insurance, Plan K. No summary cards were selected for Plan A.

A major limitation of this sample, apart from its small size, is that no families with zero claims were included. The summary cards on which this sample is based were limited to contracts with claims.[1]

The number of families included, by type of plan and by type of family, is given in Table 6–13, and the distribution of expense by age of household head for single individuals and for families is shown in Tables 6–14 through 6–17.

TABLE 6–13

M.S.I. SAMPLE: NUMBER OF FAMILIES BY TYPE OF FAMILY, AGE OF HOUSEHOLD HEAD, AND PLAN MEMBERSHIP

Type of Family and Age of Household Head	Plan Membership			
	Plan X	Plan K	Plan C	Plan B
	(number of families)			
Single Males				
0–24	24	22	24	26
25–34	7	11	9	11
35–44	7	4	5	4
45–54	5	8	8	5
55–64	3	10	8	4
65+	8	18	33	2
Total	54	73	87	52
Single Females				
0–24	19	8	7	41
25–34	9	5	1	16
35–44	5	4	1	13
45–54	7	9	1	12
55–64	14	14	11	6
65+	23	28	32	2
Total	77	68	53	90
Couples, 0 Children				
0–24	7	4	3	26
25–34	12	5	4	41
35–44	10	2	9	12
45–54	19	22	19	24
55–64	32	25	38	35
65+	27	58	65	9
Total	107	116	138	147

[1] The subscriber statements derived from these cards are intended as a convenience in claiming medical deductions on personal income tax returns. Under Canadian tax law, allowable medical deductions are based on the cost of medical care received even where the recipient is reimbursed by an insurance contract or receives care without direct charge under the provisions of a pre-payment plan. The subscription or premium cost of medical prepayment or insurance is not deductible.

TABLE 6–13 (Concluded)

Type of Family and Age of Household Head	Plan Membership			
	Plan X	Plan K	Plan C	Plan B
	(number of families)			
Couples, 1 Child				
0–24	11	7	3	19
25–34	21	8	9	32
35–44	9	9	5	18
45–54	20	15	29	22
55–64	14	16	14	12
65+	2	4	5	4
Total	77	59	65	107
Couples, 2 Children				
0–24	2	–	1	11
25–34	32	13	15	60
35–44	25	24	40	47
45–54	19	22	26	21
55–64	6	7	7	5
65+	3	1	1	–
Total	87	67	90	144
Couples, 3 or 4 Children				
0–24	1	–	1	2
25–34	35	17	21	35
35–44	53	50	40	60
45–54	40	25	29	23
55–64	6	8	11	8
65+	1	–	–	–
Total	136	100	102	128
Couples, 5+ Children				
0–24	–	–	–	–
25–34	5	4	5	6
35–44	22	24	20	13
45–54	7	7	12	9
55–64	1	3	2	–
65+	–	–	–	1
Total	35	38	39	29
All Families Total	575	521	574	698

Source: Medical Services Incorporated.

TABLE 6–14

NUMBER OF FAMILIES, BY AGE OF CONTRACT HOLDER AND INDICATED AMOUNT OF M.S.I. PAYMENTS, PLAN X (INDIVIDUAL PLAN: CO-INSURANCE), 1961

Type of Family and Age of Household Head	M.S.I. Payments						Average M.S.I. Payment
	$0–24	$25–99	$100–249	$250–499	$500+	Total	
	(number of families)						(dollars)
Single Males							
0–24	21	2	1	—	—	24	14.13
25–44	13	1	—	—	—	14	14.15
45–64	4	3	1	—	—	8	47.88
65+	6	2	—	—	—	8	21.63
Total	44	8	2	—	—	54	20.25
Single Females							
0–24	10	9	—	—	—	19	23.26
25–44	11	2	1	—	—	14	20.64
45–64	12	7	2	—	—	21	38.95
65+	10	9	4	—	—	23	57.52
Total	43	27	7	—	—	77	37.30
Couples, 0 Children							
0–24	2	4	1	—	—	7	58.86
25–44	14	6	2	—	—	22	37.73
45–64	28	17	5	1	—	51	45.73
65+	12	12	2	1	—	27	48.59
Total	56	39	10	2	—	107	45.67
Couples, 1 Child							
0–24	3	4	4	—	—	11	73.27
25–44	15	13	1	1	—	30	42.87
45–64	17	13	3	1	—	34	45.12
65+	1	—	1	—	—	2	78.00
Total	36	30	9	2	—	77	49.12
Couples, 2 Children							
0–24	—	2	—	—	—	2	42.50
25–44	23	21	12	—	1	57	67.60
45–64	12	8	3	2	—	25	63.72
65+	—	—	1	2	—	3	266.67
Total	35	31	16	4	1	87	72.77
Couples, 3 or 4 Children							
0–24	—	—	1	—	—	1	136.00
25–44	22	43	17	6	—	88	83.57
45–64	19	20	7	—	—	46	51.87
65+	—	—	—	1	—	1	300.00
Total	41	63	25	7	—	136	74.82
Couples, 5+ Children							
0–24	—	—	—	—	—	—	—
25–44	6	11	8	1	1	27	114.96
45–64	2	3	3	—	—	8	78.50
65+	—	—	—	—	—	—	—
Total	8	14	11	1	1	35	106.63

Source: Medical Services Incorporated.

TABLE 6–15

NUMBER OF FAMILIES, BY AGE OF CONTRACT HOLDER AND INDICATED AMOUNT OF M.S.I. PAYMENTS, PLAN K (COMMUNITY GROUP PLAN: CO-INSURANCE), 1961

Type of Family and Age of Household Head	M.S.I. Payments						Average M.S.I. Payment
	$0–24	$25–99	$100–249	$250–499	$500+	Total	
	(number of families)						(dollars)
Single Males							
0–24	18	2	2	–	–	22	19.18
25–44	13	1	1	–	–	15	23.13
45–64	11	2	3	2	–	18	67.06
65+	10	5	1	2	–	18	73.28
Total	52	10	7	4	–	73	45.13
Single Females							
0–24	8	–	–	–	–	8	5.00
25–44	7	2	–	–	–	9	13.55
45–64	16	4	3	–	–	23	35.09
65+	15	10	2	1	–	28	37.11
Total	46	16	5	1	–	68	29.53
Couples, 0 Children							
0–24	3	–	1	–	–	4	31.50
25–44	4	2	1	–	–	7	44.14
45–64	31	12	3	1	–	47	33.13
65+	22	26	5	5	–	58	69.34
Total	60	40	10	6	–	116	51.84
Couples, 1 Child							
0–24	4	3	–	–	–	7	45.71
25–44	7	8	2	–	–	17	53.30
45–64	14	12	3	2	–	31	58.52
65+	2	2	–	–	–	4	27.00
Total	27	25	5	2	–	59	53.36
Couples, 2 Children							
0–24	–	–	–	–	–	–	–
25–44	13	15	8	–	1	37	76.27
45–64	16	8	4	1	–	29	53.69
65+	–	1	–	–	–	1	37.00
Total	29	24	12	1	1	67	65.91
Couples, 3 or 4 Children							
0–24	–	–	–	–	–	–	–
25–44	18	31	16	2	–	67	80.19
45–64	13	13	5	1	1	33	77.12
65+	–	–	–	–	–	–	–
Total	31	44	21	3	1	100	79.18
Couples, 5+ Children							
0–24	–	–	–	–	–	–	–
25–44	2	16	10	–	–	28	90.86
45–64	1	4	5	–	–	10	111.60
65+	–	–	–	–	–	–	–
Total	3	20	15	–	–	38	96.32

Source: Medical Services Incorporated.

TABLE 6–16

NUMBER OF FAMILIES, BY AGE OF CONTRACT HOLDER AND INDICATED AMOUNT OF M.S.I. PAYMENTS, PLAN C (COMMUNITY GROUP PLAN WITHOUT CO-INSURANCE), 1961

Type of Family and Age of Household Head	M.S.I. Payments						Average M.S.I. Payment
	$0–24	$25–99	$100–249	$250–499	$500+	Total	
	(number of families)						(dollars)
Single Males							
0–24	17	7	–	–	–	24	20.00
25–44	11	3	–	–	–	14	18.07
45–64	5	6	4	1	–	16	88.38
65+	16	9	8	–	–	33	54.18
Total	49	25	12	1	–	87	44.21
Single Females							
0–24	5	1	1	–	–	7	31.57
25–44	–	2	–	–	–	2	48.50
45–64	8	4	–	–	–	12	24.75
65+	20	10	2	–	–	32	32.16
Total	33	17	3	–	–	53	31.02
Couples, 0 Children							
0–24	1	2	–	–	–	3	54.00
25–44	6	5	2	–	–	13	39.54
45–64	23	23	9	2	–	57	66.25
65+	20	28	14	3	–	65	77.85
Total	50	58	25	5	–	138	68.93
Couples, 1 Child							
0–24	2	1	–	–	–	3	40.67
25–44	4	8	1	1	–	14	69.71
45–64	17	18	7	1	–	43	60.00
65+	2	2	–	1	–	5	72.20
Total	25	29	8	3	–	65	62.14
Couples, 2 Children							
0–24	–	1	–	–	–	1	68.00
25–44	11	35	9	–	–	55	57.64
45–64	9	17	5	2	–	33	80.25
65+	–	–	1	–	–	1	116.00
Total	20	53	15	2	–	90	66.69
Couples, 3 or 4 Children							
0–24	–	–	1	–	–	1	164.00
25–44	17	27	14	3	–	61	86.33
45–64	9	20	8	2	1	40	90.65
65+	–	–	–	–	–	–	–
Total	26	47	23	5	1	102	88.79
Couples, 5+ Children							
0–24	–	–	–	–	–	–	–
25–44	5	8	11	–	1	25	101.20
45–64	3	8	2	1	–	14	86.35
65+	–	–	–	–	–	–	–
Total	8	16	13	1	1	39	95.87

Source: Medical Services Incorporated

TABLE 6–17

NUMBER OF FAMILIES, BY AGE OF CONTRACT HOLDER AND INDICATED AMOUNT OF M.S.I. PAYMENTS, PLAN B (LARGE GROUP PLAN WITHOUT CO-INSURANCE), 1961

Type of Family and Age of Household Head	M.S.I. Payments						Average M.S.I. Payment
	$0–24	$25–99	$100–249	$250–499	$500+	Total	
	(number of families)						(dollars)
Single Males							
0–24	20	3	3	—	—	26	35.35
25–44	13	1	1	—	—	15	23.67
45–64	4	3	2	—	—	9	64.67
65+	1	1	—	—	—	2	21.00
Total	38	8	6	—	—	52	36.50
Single Females							
0–24	31	8	2	—	—	41	26.56
25–44	18	10	1	—	—	29	27.04
45–64	9	6	2	1	—	18	54.83
65+	1	1	—	—	—	2	24.00
Total	59	25	5	1	—	90	32.31
Couples, 0 Children							
0–24	11	12	3	—	—	26	41.15
25–44	23	21	9	—	—	53	51.36
45–64	34	18	3	4	—	59	55.36
65+	3	5	1	—	—	9	48.78
Total	71	56	16	4	—	147	51.00
Couples, 1 Child							
0–24	4	9	6	—	—	19	78.63
25–44	16	27	7	—	—	50	54.44
45–64	10	15	6	3	—	34	84.20
65+	4	—	—	—	—	4	6.50
Total	34	51	19	3	—	107	66.40
Couples, 2 Children							
0–24	2	5	4	—	—	11	90.82
25–44	31	58	15	2	1	107	64.65
45–64	4	15	5	1	1	26	100.12
65+	—	—	—	—	—	—	—
Total	37	78	24	3	2	144	73.05
Couples, 3 or 4 Children							
0–24	1	1	—	—	—	2	41.50
25–44	12	45	32	6	—	95	98.63
45–64	6	16	8	1	—	31	84.48
65+	—	—	—	—	—	—	—
Total	19	62	40	7	—	128	94.31
Couples, 5+ Children							
0–24	—	—	—	—	—	—	—
25–44	4	10	4	1	—	19	93.10
45–64	1	3	5	—	—	9	120.67
65+	—	1	—	—	—	1	32.00
Total	5	14	9	1	—	29	99.51

Source: Medical Services Incorporated.

Analysis of these data was based on the regression model:

$$Y = a_0 + a_1 X_1 + a_2' X_2 + \ldots a_{15} X_{15} + u,$$

where Y is the total amount paid to physicians for all eligible services during 1961.[1]

X_1 (as in Model II previously) is 1 for contracts covering a male person without spouse, and 0 otherwise,

X_2 is 1 for contracts covering a female person without spouse, and 0 otherwise,

X_3 is 1 if there is one dependent child and 0 otherwise,

X_4 is 1 if there are two dependent children, and 0 otherwise,

X_5 is 1 if there are three dependent children, and 0 otherwise,

X_6 is 1 if there are four dependent children, and 0 otherwise,

X_7 is 1 if there are five or more dependent children, and 0 otherwise,

X_8 is 1 if the household head is aged 25–34 years, and 0 otherwise,

X_9 is 1 if the household head is aged 35–44 years, and 0 otherwise,

X_{10} is 1 if the household head is aged 45–54 years, and 0 otherwise,

X_{11} is 1 if the household head is aged 55–64 years, and 0 otherwise,

X_{12} is 1 if the household head is aged more than 64 years, and 0 otherwise,

X_{13} is 1 if the contract is Plan K, and 0 otherwise,

X_{14} is 1 if the contract is Plan C, and 0 otherwise,

X_{15} is 1 if the contract is Plan B, and 0 otherwise.

The a's are parameters to be estimated. The error term u is subject to the usual assumptions.

There are several undesirable features of this model. Its appeal is simplicity, but this simplicity imposes restraints. The intercept a_0 is an estimate of the expected annual expense under Plan X of a childless couple, head aged less than 25 years.[2] The other coefficients show the amount by which this estimate should be raised or lowered by the factors indicated by the corresponding variables. Thus, for example, a_{15} indicates the estimated amount by which a_0 should be increased to estimate the expense of that couple under Plan B rather than Plan X. These adjustments, however, are assumed to occur entirely within the intercept, thus implying that different plans have no effect on the added cost, say, of the third child, or alternatively, that the added costs of children, age, and

[1] Unlike the Manitoba Medical Service data, this is not the full amount of the fee schedule for the services in question, but rather the amount paid to physicians. This would correspond in most instances to 85 per cent of the general practitioner's fee schedule amount. In the case of eligible specialist services, the amount would, of course, be 85 per cent of the specialist fee schedule. Not all specialist services would be eligible. Furthermore, in the case of the services subject to co-insurance, the assessed amount would be based on one-half the fee schedule entry.

[2] In this case households headed by individuals aged less than 15 years and more than 74 years were included.

plan are independent of each other. This would not logically be expected to follow. The model, therefore, contains assumptions which are not strictly correct but which are, hopefully, not unreasonable within the context.

TABLE 6–18

REGRESSION COEFFICIENTS AND T-RATIOS, SASKATCHEWAN REGRESSION MODEL[a]

Variable	Regression Coefficient	T-Ratio
Intercept	54.93	–
Female Spouse Absent	–17.71*	–2.98
Male Spouse Absent	–25.44*	–4.48
One Child Present	3.99	.71
Two Children Present	16.47*	3.04
Three Children Present	30.47*	5.21
Four Children Present	32.39*	4.43
Five Plus Children Present	50.21*	5.18
Head Aged 25-34	– 9.85	.00
Head Aged 35-44	– 5.99	.00
Head Aged 45-54	– 7.30	.00
Head Aged 55-64	2.32	.00
Head Aged 65+	9.79	.00
Plan K	1.05	.22
Plan C	8.04	1.71
Plan B	10.00*	2.25

* Significantly different from zero at the 95 per cent confidence level.

[a] The coefficient of multiple correlation for this model was .244.

Table 6–18 gives the estimated coefficients and t-ratios obtained from the fitting of this model. All coefficients, with the exception of α_3 (one child present), α_{13} (Plan K), α_{14} (Plan C), and the age coefficients (α_8 to α_{12}), are statistically significant. There are, on the other hand, one or two surprises. The estimated cost of single males is higher than that of single females, and the lack of a coefficient that is statistically significant in the case of the variable associated with the first dependent child is unexpected. The model implies a U-shaped pattern of expense with respect to age of household head, higher in both the younger and older age brackets than in the middle age group. In part this may reflect the increased significance of maternity in these less comprehensive plans, but the lack of significance of the age coefficients renders this finding somewhat sterile. The higher age groups still appear on balance to be the high-expense groups, but not by as wide a margin as is true of the M.M.S. data. Despite the low coefficient for the first child, the standard pattern of decreasing per capita cost with increased family size is again apparent.

The most interesting coefficients, and those to which the analysis was primarily directed, are the last three. As expected, all are positive. Plan X is the most limited plan of the four. It differs, however, from Plan K only in terms of waiting periods. It is not surprising, therefore, to find no statistically significant difference between the expense estimates for these two plans. The co-insurance feature, the major additional factor differentiating Plans B and C, however, does appear to have had a greater effect, if not on utilization, certainly on the realized cost of insured services. Both α_{14} (Plan C) and α_{15} (Plan B) are large, and the latter is significantly different, statistically, from 0. The difference between these two coefficients is not significant. As anticipated, the M.S.I. experience appears to fall distinctly into two groups, plans with co-insurance and plans without. Point estimates suggest that the most limited plan is the least "costly." The large group plan (Plan B), perhaps for some reason related to the rural-urban factor considered earlier, appears to have produced the highest average family expense when correction is made both for age and family size.

TABLE 6–19

ESTIMATED PER CAPITA MEDICAL EXPENSE, M.S.I. MEMBERS, 1961[a]

Plan	Per Capita Medical Expense
	(dollars)
X	20.95
K	21.33
B	25.59
C	23.82

(a) Estimated from a random sample of 2,368 contracts of Medical Services Incorporated, Saskatchewan, and preliminary 1961 Census tabulations. Plan X is the individual plan with co-insurance; Plan K is the community group plan with co-insurance; Plan B is the large group plan without co-insurance; Plan C is the community plan without co-insurance.

Source: Tables 6–4 and 6–18.

The coefficients of Table 6–18 permit estimation of average family expense by plan and type of family for families with claims. Table 6–19 translates these coefficients to per capita estimates, assuming a relative distribution of families identical to that of the Canadian population generally, and the same proportion of families with zero claims under the Saskatchewan plan as were identified for each family type in the processing of the Manitoba Plan HCX families. In the preparation of Table 6–19, the coefficients of Table 6–18 were increased by 17.6 per cent to adjust the resulting estimates to 100 per cent of the applicable fee schedule amount.[1]

[1] This does not imply that the full fee schedule amount was applicable. In the case of services subject to co-insurance, the applicable fee schedule amount would be only 50 per cent of the full fee schedule entry. Similarly many specialist services would be assessed at the general practitioner rate. All this adjustment does is to remove the additional 15 per cent assessment levied by M.S.I. in 1961. See footnote 1, page 158.

These estimates are based on the "average" membership of M.S.I. No correction is possible here, as was the case with the M.M.S. data, for the effect of length of time of utilization of medical services. On the assumption that turnover in the Saskatchewan Plan B was about equal to that of M.M.S., the direct comparison involved would seem to be between a per capita cost in Saskatchewan of $25.59, and the Manitoba average of $31.72.

Part of this difference may be a consequence of the "rurality" factor discussed earlier. The non-Winnipeg component of the M.M.S. population is probably more characteristic of the Plan B Saskatchewan population than persons receiving care only in the Winnipeg metropolitan area. On a per capita basis, the "rurality" coefficient estimates from the M.M.S. experience could account for as much as $3.64 of this difference.[1] In addition, the plans themselves are far from comparable. It is difficult to assess the quantitative impact of the additional specialist care, refractions, psychiatry, allergy treatment, immunizations, health check-ups, and X-ray, and diagnostic benefits included by the Manitoba plan but excluded from coverage under Plan B. These factors are not minor. Furthermore, in 1961 cancer surgery was publicly supported in Saskatchewan and was not included as a Plan B benefit. This was not the case in Manitoba, and this factor alone probably accounts for more than a dollar of the differential costs between the two plans. No formal attempt has been made to compare the two fee schedules accurately, but of the two the 1961 Manitoba schedule appears to be the higher, perhaps by as much as 10 per cent. This would account for another two or three dollars. Overall, whatever cost difference is implied by the application of these models to the Saskatchewan and Manitoba experience appears to be well within the limits of plausibility accounted for by differences in the geographic dispersion of the two populations, differences in the benefits included by the plans considered, and finally by differences in the fee schedules used by the two service organizations. Whatever may be the implication of the lower physician-population ratio in Saskatchewan for the medical care received by the Saskatchewan population as a whole, the experience of Plan B subscribers does not drastically contradict the general applicability of the Manitoba experience as a basis for estimating the cost of extending Plan HCX services, and the standard of medical care currently rendered by that plan to other segments of the Canadian population.[2]

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[1] This would be the case only if the Manitoba sample were entirely urban and the Saskatchewan group entirely rural, neither of which, of course, is correct. The $3.64 figure is simply $12.20 (the coefficient on the "rurality" variable of Table 6—12) divided by 2.899, the mean number of persons per Canadian family as defined by Table 6—4, adjusted for the roughly 12 per cent of families with zero claims. The structure of the model makes this estimate independent of the distribution of families.

[2] Implied, of course, in this statement is the payment of physicians at 1961 Manitoba fee schedule rates. The Manitoba Medical Association in July 1962 released a very substantially revised schedule of fees. Not only did this revision substantially alter rates among various classes or blocks of service, but the over-all level of fees appears to have been markedly increased. The critical role played by the fee schedule in this area should not be overlooked. As the payment for medical services on a direct patient-physician basis becomes increasingly the exception rather than the rule, attention must focus on the definition and application of appropriate standards for this price-setting. The increased interest on the part of physicians in the development of a rational "relative tariff" is an encouraging step, but only a step, in this direction.

The Medical Care Insurance Commission

Preliminary tabulations of the experience of the Saskatchewan Medical Care Insurance Commission provide another check on the general applicability of the Manitoba experience. At this writing the most current data from the M.C.I.C. relate to claims paid during the second quarter of 1963. These claims reflect services rendered either during or preceding this quarter. No tabulations by actual date of services rendered is available from the Commission at this time.

Claims were paid during the second quarter of 1962 for a group of insured services somewhat broader than the M.S.I. comprehensive contracts considered earlier. In particular, specialist services were insured in full (that is, at specialist rates) when the beneficiary was referred to the specialist by another physician. Benefits for routine care of new-born infants, routine physical examinations, innoculations and vaccinations, medically prescribed physiotherapy, certain laboratory services, and psychiatric treatment were available under the Medical Care Insurance Act but were not included by the M.S.I. comprehensive contracts.[1] On the other hand, radiology was covered by M.S.I. contracts, subject to a limitation, and was not covered by the Medical Care Insurance Commission until July 1, 1963. The M.C.I.C. benefits as of the second quarter of 1963 differed from the Manitoba Medical Service HCX benefits in that the latter included coverage for specialist care in full, refractions, radiology, and cancer surgery. Although hard and fast comparisons are not possible, the M.C.I.C. benefits appear to be more inclusive than the M.S.I. Plans B and C, but still somewhat less comprehensive than the Manitoba Plan HCX.

At the end of June 1963, roughly 810 thousand persons were insured by the Saskatchewan Commission.[2] At present the exact age and sex distribution or family composition of this covered population is unknown, although a five-year age and sex breakdown is available for the population covered in 1962 by the Saskatchewan Hospital Services Plan.[3] This population includes Indians, recipients of War Veterans' Allowances Payments, and recipients of services provided through the Medical Services Division of the Saskatchewan Department of Public Health, none of whom was included as a beneficiary of the Medical Care Insurance Commission. This added group represented in 1962 only 60 thousand of 870 thousand persons, so that the distortion of the relative representations of various age and sex groups ought not to be great if the structure of this larger population is taken as a measure of the age and sex structure of the M.C.I.C.

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[1] The Act also provides for limited dental services when rendered in support of maxillo-facial surgery. Services available under other state or federal programs, or insured by any state or federal agency, are excluded both by the Act and by the M.S.I. contracts.

[2] This figure is estimated by deducting from the total Saskatchewan population the number of persons falling within the categories of: Indians residing on reserves, members of the Armed Forces and the Royal Canadian Mounted Police, patients in mental hospitals and tuberculosis sanatoria, inmates of penitentiaries and jails, and federal old age security and blind pension and Aid-to-Dependent-Families recipients.

[3] See Province of Saskatchewan, Department of Public Health, *Annual Report of the Saskatchewan Hospital Services Plan* (1962), Table B2, pp. 46–47.

beneficiary group.[1] The estimates of per capita average claims expense shown in Table 6–20 were derived by multiplying by four the total specialist and general practitioner amounts claimed by persons within each age group between April 4, 1963, and June 26, 1963, and dividing that amount in each case by an estimate of the number of corresponding persons covered. This last was obtained by applying the age and sex structure of the Saskatchewan Hospital Services Plan beneficiary population to an estimated total number of Medical Care Insurance Commission beneficiaries of 810 thousand.

TABLE 6–20

ESTIMATED ANNUAL PER CAPITA CLAIMS, SASKATCHEWAN MEDICAL CARE INSURANCE COMMISSION, BY AGE AND SEX OF INSURED POPULATION, SECOND QUARTER, 1963[a]

Age Group of Insured Population	Average Per Capita Claim Rate[b]	
	Male	Female
	(dollars)	
0– 15	14.05	13.17
15 – 24	16.51	31.68
25 – 34	16.41	45.21
35 – 44	21.12	39.46
45 – 54	25.92	42.21
55 – 64	39.02	42.50
65+	45.87	44.94
All Ages	22.57	31.34

(a) Based on estimated population covered and the full value of the Saskatchewan fee schedule for eligible services.

(b) Quarterly data adjusted to an annual rate.

Source: Medical Care Insurance Commission.

A strict class-by-class comparison of these Saskatchewan estimates with the Manitoba experience is not possible. The Manitoba data were processed on a family basis. The Saskatchewan data are available only on an individual basis. Table 6–21, however, provides a comparison for single individuals and for couples without children. In this table, the Manitoba estimates assume only one year's prior coverage, the minimum tenure for which estimates are available.[2] The M.C.I.C. estimates for couples are simply totals for corresponding individuals and consequently include less maternity expense than would otherwise be expected. Corresponding estimates for single females also include some maternity. Maternity is a major element of expense in the child-bearing age brackets.[3]

[1] The 25,000-odd Indians, reservation residents, tend as a whole to be relatively young. War Veterans' Allowances recipients are, of course, concentrated in the upper age brackets. These two groups, approximately equal in size, should to some extent offset each other in differentiating the age-sex structures of the M.C.I.C. and S.H.S.P. groups.

[2] The Manitoba estimates are based on the regression coefficients of Table 6–9.

[3] See Appendix III.

TABLE 6–21

ESTIMATED EXPENSE PER HOUSEHOLD, SELECTED FAMILY TYPES, SASKATCHEWAN MEDICAL CARE INSURANCE COMMISSION, 1963, AND MANITOBA MEDICAL SERVICE, PLAN HCX, 1961

Family Type	Estimated Total Expense	
	M.C.I.C.	M.M.S.[a]
	(dollars)	
Single Male Persons Aged		
0 – 24	16.51	15.85
25 – 34	16.41	19.97
35 – 44	21.12	14.41
45 – 54	25.92	23.12
55 – 64	39.02	34.62
65+	45.67	57.41
Single Female Persons Aged[b]		
0 – 24	31.68	22.43
25 – 34	45.21	26.44
35 – 44	39.46	20.64
45 – 54	42.21	29.54
55 – 64	42.50	41.04
65+	44.94	53.83
Childless Couples Head Aged[c]		
0 – 24	48.19	58.47
25 – 34	61.62	62.59
35 – 44	60.58	56.84
45 – 54	68.13	65.74
55 – 64	81.52	77.24
65+	90.62	90.03

(a) From Table 6–9.

(b) M.M.S. estimates are based on female persons without spouse. Maternity benefits are not included. M.C.I.C. estimates are based on the experience of all female persons including those with and those without husbands. Maternity is included for these latter persons. Hence the M.C.I.C. estimates tend to be high for females of child-bearing age in comparison with the M.M.S. estimates.

(c) M.M.S. figures are based on the experience of actual couples without children. M.C.I.C. estimates are derived by adding together the average cost of male and female persons of the indicated age bracket. M.M.S. data, by considering only childless couples, exclude maternity.

Apart from this different allocation of maternity expense, the cost experience of the two plans is reasonably similar. The tendency for the M.M.S. estimates to rise slightly more with age than the M.C.I.C. tabulations may well reflect the impact of cancer surgery, present in the former but absent from the latter. More complete laboratory and X-ray services would, on the basis of the tables in Appendix III, also be expected to follow this general pattern.[1]

The average per capita annual expense rate, based on this second quarter's experience, for the M.C.I.C. population was $26.83. The M.M.S. estimates in Table 6–21, weighted by the Canadian population generally, produce a per capita estimate of $26.80.[2] This correspondence would not be anticipated, given the differences in coverage of the two plans. A minimal estimate for the contribution of radiology, excluded in Saskatchewan, to total expense in Manitoba would be 10 per cent, and there are other differences including added specialist care, cancer treatment, and refractions. Although this comparison makes no adjustment of the Manitoba data for the far more rurally-oriented population of the Province of Saskatchewan, Saskatchewan experience in the second quarter of 1963, far from appearing low by M.M.S. standards, seems to have been unexpectedly high.[3]

There are, however, many reasons for not relying heavily on these Saskatchewan data. These data are preliminary; the time period is short. Tabulation is according to date of payment, not according to date of service. No check has been made of the possibility that these amounts include an abnormally high volume of services because billing by physicians earlier in the year was delayed and caught up during the second quarter. In addition medical services are subject to a seasonal effect. The third and fourth quarters are typically quarters with relatively low utilization, and the first and second are usually high. Accounts paid during the second quarter would normally reflect services rendered during the first quarter. No seasonal adjustment was made in the M.C.I.C. data reported here. Also the plan was new. The experience of the M.C.I.C. staff in processing claims was still limited. Some claims may have been paid in full that a more experienced staff might have adjusted. The list of possibilities could be expanded. All that can be asserted from this very superficial processing of

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[1] The dip in the Manitoba estimates in the middle age brackets reflects an (undesirable) constraint of the regression model. This is a carry-over effect of the maternity expense of couples with children who are, of course, not listed in Table 6–21. This effect can be avoided if comparison is made with the family estimates of Table 6–3 (Model I) but this comparison fails to correct for duration of membership. See footnote 1, page 129.

[2] The M.M.S. figure is based on the regression coefficients of Table 6–8 and the Saskatchewan population weights of Table 6–4, and therefore is based on estimates for more types of family than those appearing in Table 6–21. Moving to estimates based on the claims of families with two years' experience under M.M.S. would raise this figure to $29.27. Indeed, this latter comparison might be more appropriate. Not all the residents of Saskatchewan were without prepayment coverage prior to 1962.

[3] Those estimates are not unduly high, however, in terms of prior estimates by the Saskatchewan Commission. Physicians are paid under the Act at the rate of 85 per cent of the allowed fee schedule. This drops the per capita cost from $26.83 to $22.83, an amount well within the range of estimates reported by the Advisory Planning Committee on Medical Care, of $22.39 and $23.06. See Advisory Planning Committee on Medical Care, *Interim Report* (September 1961), pp. 74–84. The estimates of the Committee do, however, appear to assume the inclusion of the services of radiologists as an insured benefit. The Report is not explicit in this regard.

data of somewhat suspect applicability is that there is no serious contradiction of the M.M.S. experience. Neither, of course, is there any great inconsistency with the projections of the Saskatchewan Advisory Committee.

LIMITATIONS OF AVAILABILITY

The increase in utilization which appears, on the basis of this experience, to be one aspect of the introduction of universal medical prepayment, raises the question of whether there may not be limits imposed by the availability of these services.[1]

Table 6–22 contains estimates of the total payments to physicians that would be generated in each of the ten provinces if all residents received care equal to that obtained on the average by subscribers to Manitoba Medical Service.[2] These estimates are those of Table 6–5 with adjustment for the relative representation of rural residents in the provincial populations.[3] Opposite these estimates are the total number of active physicians reported in each province. The third column of Table 6–22 indicates the gross income that would be generated per physician if the volume of services indicated in the first column were realized. The estimated average gross income of physicians in private practice in each province in 1961 is indicated in column four.[4]

In the provinces of Quebec, Ontario, Manitoba, and British Columbia, or even in Saskatchewan and Alberta, differences between these estimates of gross income of physicians in private practice in Canada and those implied by an extension of the Manitoba Medical Service experience are not great. In the other provinces, however, there is an indication that the current number of physicians might be hard pressed to generate, for their provincial populations, a volume of care equivalent to the M.M.S. standard. The most striking example is Newfoundland. If this population were to receive care, on a family-by-family basis, equal to that of M.M.S. subscribers in 1961, physicians would be required to produce well over double the dollar volume of services generally provided by physicians in private practice in Canada. Under such circumstances, not only would the introduction of universal prepayment coverage probably continue to involve some rationing, but also it can be inferred that the present standard of medical care received by the Newfoundland population is very markedly below that characteristic of, for example, the Province of Ontario. This is not a new conclusion. It follows

[1] Notice that in Saskatchewan, with only one physician per 1,019 residents (in contrast with one per 879 residents in Manitoba), there appears, on the basis of the M.C.I.C. data earlier presented, to have been no difficulty generating a volume of services roughly equal to those received by new M.M.S. plan HCX subscribers.

[2] These estimates assume coverage of *all* residents, not only those who are not presently receiving care administered or rendered by some public agency.

[3] This adjustment estimates rural per capita costs at $3.64 less than those of the urban group, the estimates of Table 6–5 being considered directly applicable to the urban components of the provincial populations. For additional detail, see Table 6–22, footnotes a and b.

[4] This estimate is based on the average net income and operating expenses of G.P. and specialist physicians in private practice (see Judek, S., *Medical Manpower in Canada*, Chapters 4 and 6) and assumes a 40 per cent representation of specialists. To the extent that physicians in private practice earn, on the average, more than those who are salaried and in the employ of public or private agencies, these estimates overstate those of column three, which include all physicians and further assume rigid adherence to the 1961 Manitoba Schedule of Fees.

directly from the physician-population ratios available in Judek.[1] This formulation is simply another indication of a differential standard of medical care, and, indeed of a potential shortage of medical facilities.

TABLE 6–22

ESTIMATED PAYMENTS TO PHYSICIANS UNDER UNIVERSAL PREPAYMENT, BY PROVINCE, 1961

Province	Total Number of Physicians, 1961	Estimated Payments to Physicians under Universal Payment		Reported Average Gross Income of Physicians in Private Practice, 1961(b)
		Total(a)	Per Physician	
		(dollars)		(dollars)
Newfoundland	230	12,169,733	52,911	22,412
Prince Edward Island ..	91	2,957,862	32,503	20,229
Nova Scotia	706	22,147,060	31,369	23,123
New Brunswick	455	16,849,836	37,032	23,991
Quebec	6,167	152,885,264	24,790	21,300
Ontario	8,040	197,746,477	24,595	24,928
Manitoba	1,120	26,531,361	23,689	22,895
Saskatchewan	951	27,820,192	29,253	22,838
Alberta	1,356	40,650,931	29,979	23,313
British Columbia	2,150	52,749,675	24,535	24,842
Canada	21,266	558,272,741[3]	26,252	23,504

(a) Total shown weights urban population by the corresponding per capita cost estimate shown for Model II in Table 6–5 of this chapter, and non-urban population by that estimate less $3.64. This urban-rural differential is the cost implication for all services of α_{18} in Table 6–11.

(b) Based on estimated net earnings of general practitioners and certified specialists in solo private practice as given by Judek, S., *Medical Manpower in Canada*, a study prepared for the Royal Commission on Health Services, Table 6–3; operating expenses of general practitioners and specialists in private practice, Judek, S., Table 6–14; and the ratio of general practitioners to specialists as derived from Judek, S., Table 4–35.

(c) The estimating procedure imposes no restrain that provincial totals add to total shown for Canada. Estimates for the provinces add to $552.5 million.

Source: Judek, S., *Medical Manpower in Canada*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964, Chapter 4, Table 4–14, Table 4–35; Chapter 6, Table 6–3, and Table 6–14. Dominion Bureau of Statistics, *Population, Rural and Urban Distribution*, Bulletin 1–7, February 8, 1963, Catalogue No. 92–536, Vol. 1– Part 1, Table 12.

[1] Judek, S., *op. cit.*, Table 4–35.

REDISTRIBUTIVE EFFECTS OF RATE SETTING

The data in this section also permit limited consideration of the effect of different rates or subscription structures on the redistribution of family income implicit in any voluntary or mandatory system of medical insurance or prepayment. This redistribution occurs because detailed rate setting is impracticable, if not undesirable. Medical expenses vary substantially among otherwise similar types of families or individuals. But they vary more among different types of families. The analysis in this chapter has been concerned with an attempt to isolate the effect of age, sex, and family size as determinants of medical expense. These effects have been consistently significant. Expected medical costs are not, for example, the same for single females as for single males, for a young man as for an old man, or, even more obviously, for a married couple without children as for a couple with five children. Yet the rate setting of prepayment and insurance organizations frequently draws no such distinction. The data on which the bulk of this study rests were obtained from Manitoba Medical Services. Estimates presented here reflect the experience of that organization. However, subscription rates set by M.M.S. distinguish only between individuals and families.[1] Thus, for example, in 1961 a single non-group subscriber would have paid $51 for a year's membership in Plan HCX regardless of his sex and regardless of his age. On the other hand, a single individual, joining M.M.S. in 1960, would have had to have been at least 55 years of age before his expected 1961 medical expense would have been as much as $50.00.[2] Indeed, more than half the total subscription income from single male persons aged less than 25 years of age, of whom there were more than 3,000 in the M.M.S. memberships, helped pay the medical expenses of some other age or family group.[3] The gap between expected expense and actual subscription rates for other family groups is similarly striking. The M.M.S. data show that childless couples, head aged 25 to 34 years, had average annual medical expenses of $59.54 in 1961. These couples paid annual subscriptions to M.M.S. of $138.00 for non-group contracts or $108.00 if coverage was received under a group contract.[4] But these rates were also applicable to all family contracts, and a family contract is any contract that covers more than one person. Hence couples with five or more children paid the same subscriptions of $138.00

[1] Different rates are set for individual contracts and for group contracts. Group contracts are generally experience-rated but, within any group, rates are equal for all single individuals, regardless of sex or age, and for all families regardless of size, age, or composition.

[2] See Table 6–3.

[3] M.M.S. rates are set so that total subscription income of the membership as a whole approximately equals the cost, at the full fee schedule, of medical services rendered. Participating physicians accept less than the full fee schedule as full payment for services in order to make this possible. In 1961 physician's accounts were paid at the rate of 89.5 per cent of fee schedule value. Payment of non-group subscription rates is assumed throughout this illustration. Group rates in 1961 were, on the average, somewhat lower.

[4] The group rate quoted is the average group rate. Actual rates varied somewhat because of the experience-rating of group contracts.

(non-group) and $108.00 (group), yet the expected annual claims expense of such families was, of course, far greater. In simple terms, the M.M.S. contract is a "better buy" for older persons or for large families than for childless couples or for younger single persons.[1]

The extent of this "cross-subsidization" is illustrated by Table 6–23. Here applicable group and non-group subscription rates are compared with corresponding average medical expense for selected categories of family. This table shows very clearly the tendency, given the 1961 rate structure of Manitoba Medical Service, for subscriptions paid by young single individuals and childless couples to support the higher average expense of older single persons and large families.

For the most part, it is the view of the prepayment or service groups that such cross-subsidization is desirable. It makes feasible, in their view, an extension of coverage to high-expense groups which would otherwise not be possible. The medical service organizations, both in this country and in the United States, have long attempted to maintain simple rate structures in accordance with this philosophy.

To the commercial insurers, such an attitude is inappropriate. The foundations of underwriting are laid on the principle that insurance is protection against the risk of the insured, not of others. "Good" underwriting accurately defines the specific risk of the insured. It does not, for social or philosophic reasons, lump together groups subject to definable differential risks. In the eyes of the underwriter, there is no necessary, or perhaps even defensible, reason why low-risk individuals should support or subsidize high-risk individuals. Risk selection is a by-word of insurance.

In the field of medical insurance the interaction of these contrasting attitudes has been confined largely to group contracts. In the case of non-group contracts, the commercial insurers have found this coverage expensive both to sell and to service. An indication of this is the loss ratio of from 40 to 50 per cent characteristic, for the commercial insurers, of experience in the non-group area. With one or two exceptions, the prepayment carriers have not aggressively sought non-group business. Furthermore, the product offered by the prepayment plans has been sufficiently different from that of the commercial insurers so that direct price competition between them has been the exception rather than the rule.

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[1] As is argued earlier, much of the value of medical prepayment lies in its risk-reducing characteristics. In this regard an M.M.S. contract may be an excellent "buy" for all families. It does, however, favour families with high expected expense because of the simplified rate structure.

Curiously enough, the M.M.S. contract is about "fair" for childless couples, head aged over 65. Roughly 4,000 such couples had medical expenses averaging $118.15. On the other hand, the average expense for single men over 65 came to $80.72, and for single women over 65 to $64.70, each significantly more than the applicable individual subscription rate. One spurious implication of these findings is that couples appear, on the average, to incur less total expense than would be expected if the two persons involved were independent individuals.

TABLE 6–23

AVERAGE FAMILY MEDICAL EXPENSE, AND APPLICABLE GROUP AND NON-GROUP PREPAYMENT SUBSCRIPTIONS, SELECTED TYPES OF FAMILY, MANITOBA MEDICAL SERVICE, 1961

Type of Family	Average Medical Expense	Applicable Family Subscription Rate		Average Expense Less Applicable Subscription Rate	
		Group[b]	Non-Group	Group[b]	Non-Group
	(dollars)				
Single Males Aged					
15–24	20.93	43.20	51.00	-22.27	-30.07
25–34	22.97	43.20	51.00	-20.23	-28.03
35–44	29.74	43.20	51.00	-13.46	-21.26
45–54	39.05	43.20	51.00	- 4.15	-11.95
55–64	49.26	43.20	51.00	6.06	- 1.74
65–74	73.68	43.20	51.00	30.48	22.68
Single Females Aged					
15–24	29.06	43.20	51.00	-14.14	-21.94
25–34	32.98	43.20	51.00	-10.22	-18.02
35–44	41.52	43.20	51.00	- 1.68	- 9.48
45–54	50.17	43.20	51.00	6.97	- 0.83
55–64	55.64	43.20	51.00	12.44	4.64
65–74	60.46	43.20	51.00	17.26	9.46
Couples With No Children, Head Aged					
15–24	43.10	108.00	138.00	-64.90	-94.90
25–34	55.50	108.00	138.00	-52.50	-82.50
35–44	73.20	108.00	138.00	-34.80	-64.80
45–54	91.37	108.00	138.00	-16.63	-46.63
55–64	98.14	108.00	138.00	- 9.86	-39.86
65–74	111.21	108.00	138.00	3.21	-26.79
Couples With Two Children, Head Aged					
15–24	146.40	108.00	138.00	38.40	8.40
25–34	124.13	108.00	138.00	16.13	-13.87
35–44	112.85	108.00	138.00	4.85	-25.15
45–54	119.73	108.00	138.00	11.73	-18.27
55–64	123.61	108.00	138.00	15.61	-14.39
65–74	123.52	108.00	138.00	15.52	-14.48
Couples with Five or More Children, Head Aged					
15–24	222.60[a]	108.00	138.00	114.60	84.60
25–34	186.25	108,00	138.00	78.25	48.25
35–44	169.46	108.00	138.00	61.46	31.46
45–54	162.72	108.00	138.00	54.72	24.72
55–64	166.05[a]	108.00	138.00	58.05	28.05
65–74	165.96[a]	108.00	138.00	57.96	27.96

(a) Estimated. See Table 6–3.

(b) Average group rates. See Manitoba Medical Service, brief submitted to the Royal Commission on Health Services, December 1961, p. 20.

Source: Table 6–3 (Model I),and Manitoba Medical Service, brief submitted to the Roayl Commission on Health Services, December 1961, p. 20.

With group contracts, however, competition has been direct and intense. Here also the prepayment groups have tended, though not completely, to abandon their traditional belief in a single premium or subscription structure. The explanation is relatively straightforward. The administrative and sales cost of group insurance or prepayment is minimal. Large numbers of persons are at one time covered by a single agreement. Adverse risk selection becomes a secondary consideration. Variance in the experience of individual groups over time is of secondary importance. For relatively stable groups, where turnover within the group is slow or where the age-sex composition of the group remains relatively constant, past experience becomes an efficient predictor of future experience. Not only an insurer, but the group itself, knows with reasonable certainty what future experience will be. In this situation insurance coverage for the group as a whole ceases to be primarily insurance and becomes, as it were, payment for the administrative job of providing insurance within the group. If the aggregate experience of the group is known or nearly known, the group, as a group, has a greatly reduced insurance need. Uncertainty is confined to the experience of individuals within the group, and an insurer with known or nearly known total claims for the group as a whole is faced largely with the task of collecting premiums and paying claims to the individuals within the group. Frequently even the task of collecting premiums is undertaken by the group or its employer, leaving the insurer simply with the job of processing and paying claims. Hence to the insurance carrier, the contract is an attractive one as long as the gross premium exceeds the total claims cost of the group and the administrative cost of processing claims. With the former known or nearly known, carriers can be expected to compete primarily in terms of their ability to provide this latter service. This is, in fact, the effect of experience-rating. Under these arrangements, premiums are set retroactively to roughly equal actual claims cost plus some margin to cover the cost of the insurer's administrative services.[1]

This practice, almost universally followed by the commercial carriers, would not interfere with the single rate structure of the prepayment plans if there were no significant variation in the composition, or aggregative claims experience, of eligible groups. This is not the case, however. Although medical experience is not typically a factor determining employment, other characteristics which relate to expected medical experience are. Thus, for example, office groups tend to be disproportionately weighted with young single women. Retail sales groups frequently include more older persons. Certain operating establishments employ large numbers of young men. Many trade association groups are composed largely of older men. Although within any single group, selection of individuals may be random or representative for the class of individuals included, the fact that different marital or age classes are characteristic of different groups is more than enough to introduce significant variation in the expected claims experience between or among these groups. Any premium or subscription structure involving

[1] In practice, of course, this is accomplished by rebating. Standard premiums are set, rebates being made, or premiums being increased, depending upon the aggregate claims experience of the group.

cross-subsidization among age or family structures will therefore necessarily produce total group subscription differing significantly from the expected claims experience of groups which are not representative of the covered population as a whole. Where administrative and sales costs of insurance are low, as they are in the case of group contracts, this in turn means that any group with a "favourable" age, sex, or family structure will be one where the cost of self-insurance, or alternatively of expected aggregative experience plus administrative service, will be below the aggregative subscription based on a subscription which is "fair" for only a representative slice of the membership of all covered groups. Therefore, it is very much in the interest of those "favoured" groups to seek a carrier willing to experience rate. The commercial carriers have competed actively on this basis.

This competition, if it were not met by the prepayment groups, would remove from the customer ranks of the prepayment plans those groups with low cost experience. In turn, the prepayment plans would be forced to move to a generally higher rate structure for their remaining groups. In effect, therefore, the prepayment groups would, in a sense, be experience-rating in any case. If strict adherence to a single across-the-board rate structure for all groups were maintained, the prepayment groups would find their market confined largely to high-cost groups or to groups favouring for some special reason a service, as opposed to an indemnity contract. The service characteristic of the prepayment product would not be a minor factor in this competition. On the other hand, the relative advantage of the prepayment plans would be increased were they to meet the competition of insurance carriers on their own terms, that is, by accepting, for large groups, the principle of experience-rating. Most of the large prepayment plans have in fact moved in this latter direction. Physicians' Services Incorporated in Ontario is a notable exception.

The quantitative leeway for group rating will necessarily depend upon the extent to which eligible groups differ in their composition in terms of factors affecting expected medical expense. The earlier tables' average expense by age, sex, and family size give some indication of potential in this regard. No serious effort has been made in this study to determine empirically the actual extent of variation among groups. Table 6–24, however, shows for illustrative purposes the loss-ratios that would have been realized in 1960 on each M.M.S. group of 100 or more contracts had those groups paid subscriptions based on an $8.25 per month family rate.[1] One year is too short a period for an accurate evaluation of these differences. Even so, the lower claims cost of rural groups is quite marked as is the variance not only in the realized loss-ratios of individual groups but also in the applicable subscription rates. Group rating is not a minor factor.

[1] Actual rates in effect in 1960 are also shown in the table. These were corrected to a standardized rate so that comparison of the different actual claims of different groups would be facilitated.

TABLE 6–24

GROUP LOSS RATIOS, PROJECTED TO COMMON RATE BASE, ALL LARGE GROUPS, MANITOBA MEDICAL SERVICE, 1960

Group Size	1960 Loss Ratio
3,298	105.7
113	95.7
144	101.6
119	82.8
113	100.7
142	118.8
188	126.1
178	76.1
185	193.1
587	105.6
112	80.4
1,547	100.3
113	102.9
1,026	88.0
611	107.0
195	101.9
669	98.1
676	83.1
233	84.4
171	106.1
259	103.0
744	97.7
2,395	94.4
122	86.4
225	87.6
245	113.3
2,969	92.7
169	107.7
278	86.7
240	97.9
147	67.2
180	92.0
108	93.1
275	122.3
190	106.2
289	100.6
3,920	92.6
136	86.4
105	107.5
320	128.5
118	50.2
149	97.5
135	57.4
111	43.8
166	88.4
354	51.9
163	74.2
438	75.8
530	61.4
217	131.3
130	110.7
117	135.9
238	59.6
109	70.6
639	74.8

Source: Manitoba Medical Service.

Administrative costs of this coverage are typically less than 10 per cent of claims for all carriers, and hence these differences in claims experience are large relative to administrative cost. It is not surprising that experience-rating has become the rule not the exception in the group field.

There is, of course, both equity and inequity in this practice. The assertion, faithful to insurance principles, that this practice is clearly equitable since groups tend under these circumstances to carry only their own risk and are, therefore, not subjected to the inequity of having to subsidize high-cost groups is quite correct but is only part of the picture. Within any single group, high-cost individuals, in terms of expected expense, are still subsidized by their colleagues who, in terms of age and family size, have lower expected costs. There is no reason to argue that what is "right" within the group is "wrong" among groups. In this situation it is convenience and not equity that promotes the practice. The definition of groups, logical in terms of business procedure, is arbitrary in terms of expected medical expense. If group rating is represented as desirable in terms of some fundamental principle of equity, then the full application of that principle would involve individual rating. To some extent this occurs. Its extension, however, is frustrated by its feasibility. Accurate rating of large groups is feasible. Accurate rating of individuals is not. Hence any given individual's gains or losses in the group are not according to his own risks but according to the collective expectation of total medical expense of the group with which he finds himself associated. As argued earlier, this is simply a consequence of the free interplay of competitive forces within a voluntary system.

SUMMARY

This chapter, with its emphasis on average as opposed to individual experience, provides, in effect, the alternative to the probability distributions of Chapter 5. The latter illustrates the pattern of medical expense that would be incurred by families in the absence of medical insurance or prepayment coverage. This chapter contains estimates of the averages that would replace those distributions were corresponding insurance or prepayment coverage in force.[1]

The analysis goes further, however. The over-all averages for each of the various types of families considered show the degree to which age, sex, and in the case of couples, number of children, can influence the utilization of medical services. The introduction of variables based on the duration of M.M.S. coverage permits estimation of the effect of exposure to prepaid medical services. These latter estimates show marked increases in the utilization of services following enrollment in the prepayment plan. This growth also appears to be concentrated in

[1] Under Manitoba Medical Service, these averages represent the *full* cost, not just the claims cost, of prepayment coverage. Participating physicians accepted a reduction from scheduled fees, amounts sufficient to offset the administrative and operating expenses of the prepayment organization.

those areas of medical care where discretion on the part of the patient would be expected to be most influential. These results lend a good deal of support to those who have argued that prepayment can be a powerful force in stimulating an increased use of medical facilities, especially in these areas of well-patient care.

Similar comparison of the claims records of rural and urban residents also illustrates the discretionary aspects of the demand for much medical care. Again it is interesting that these data demonstrate rural-urban differences that others have long suspected.

Finally, individual estimates permit isolation of the degree of cross-subsidization implicit in any contributory, or indeed tax-supported, program. The potential application of these data in this regard has only been illustrated. This chapter centered instead on the behavioural aspects of families with comprehensive protection. Estimates are provided in sufficient detail to permit the reader to extend the analysis should he wish to do so.

CHAPTER 7

VOLUNTARY COVERAGE AND PUBLIC POLICY

COVERAGE IN 1961

In Canada in 1961, approximately 9.6 million persons, or about 53 per cent of the total Canadian population were partially or fully protected from the cost of needed medical or surgical care by contracts issued by voluntary insurance or prepayment agencies. Of these 9.6 million, roughly 8 million held contracts providing benefits covering more than the cost of the services of physicians or surgeons in hospital.

The bulk of this voluntary coverage was provided under group contracts. More than 85 per cent of those Canadians with protection received it under group contracts. In addition, most group coverage was provided, and continues to be provided, by group contracts extending coverage to the employees of working establishments. Voluntary insurance and prepayment coverage obtained on a non-group basis, including the conversion of group coverage, accounted for a very small percentage of total participation.

This over-all figure of 9.6 million Canadians with voluntary coverage is not a full measure of the protection against adverse medical experience present in Canada in 1961. Members of the Armed Forces are provided with medical care directly by the Federal Government, as are certain eligible veterans of the military service. Eskimos and Indians on reservations similarly receive publicly supported medical assistance. Fifty-three thousand persons in the Swift Current Health Region of Saskatchewan were eligible in 1961 for comprehensive benefits under the tax-supported program in that area. In addition, institutionalized persons frequently receive medical care without direct cost and would, in this sense, be excluded from the population the voluntary carriers seek to serve. Although difficult to estimate, it is likely that approximately one million persons in Canada, in 1961, were eligible for medical services supported by some institutional device, public or otherwise, other than voluntary medical insurance or prepayment.[1]

[1] The Canadian Conference on Health Care estimates that in 1961, 1.3 million Canadians received some protection from these "non-voluntary" sources. Canadian Conference on Health Care, "Voluntary Health Insurance Coverage in Canada, 1961", Toronto, 1963.

Furthermore, the estimates of insurance and prepayment coverage reported here take no account of "sickness and accident" insurance in force in Canada in 1961. Although these latter contracts provide loss-of-income insurance and probably are held chiefly by persons also protected by medical insurance or prepayment, the existence of this additional coverage should not be overlooked. Just as voluntary savings against the contingency of unforeseen medical expense are a form of medical prepayment, sickness and accident insurance are a part, albeit indirect, of the voluntary private system of protection against the financial implications of ill-health. In 1960, $121,880,695 were incurred in claims against combined sickness and accident insurance contracts then outstanding.[1] These claims offset income that would otherwise have been lost as a consequence of absenteeism due to illness or accident.

The present study, however, is concerned with mechanisms directly providing or directly offsetting the cost of needed medical and surgical care. In this latter context, roughly eight million Canadians in 1961 did not participate in medical or surgical insurance or prepayment then available from the private carriers. Furthermore, the heavy emphasis on group coverage reported above, and in more detail in Chapter 2, suggests that, in the absence of fringe benefits provided by, or at least supported by, the employer in working establishments, even more than eight million Canadians would in that year have been without this coverage.[2]

Underwriting Restraints in Voluntary Contracts

On the basis of information submitted by the carriers, and reported in Chapter 3 of this study, current underwriting requirements of the voluntary carriers define as ineligible for any form of voluntary medical insurance or prepayment only a relatively small class of persons. There are limitations, to be sure, but the most sweeping of the traditional ones – advanced age – is no longer a total exclusion. Even pre-existing conditions may be covered, under some contracts, after initial waiting periods have been satisfied.[3] Such coverage would not be available from all carriers, nor would all forms of contract currently offered be obtainable. The degree of availability of coverage varies from area to area,

[1] Report of the Superintendent of Insurance for Canada, 1960, (Queen's Printer, 1961), pp. xxx, 17 and 18. Note that the coverage of sickness and accident contracts tends by definition to be restricted to the wage-earner. Indemnities are paid only in the event of loss of income. Medical expenses incurred without the disability of a household head and a resulting loss of income do not, therefore, lead to claims under this class of insurance.

[2] It is not accurate, in those cases where employer-financed health plans were available without charge to all employees, or are a condition of employment, to refer to the resulting coverage as wholly voluntary from the standpoint of the individual employee. The term "voluntary" is the traditional one adopted by the industry. Private (as opposed to public) would, however, be more generally applicable and accurate in this context. The contribution of employers in this regard has not been minor. See Chapter 2, Table 2–2.

[3] No information is here available regarding coverage for psychiatric disorders, a commonly excluded benefit.

and its cost can be high. Nevertheless, outright exclusion of certain classes of person from eligibility for all or any coverage does not appear to be the objective of underwriting procedures as they have evolved in Canada.[1]

The prime function of these procedures is rather to define risk more narrowly, to differentiate high-expense groups from low-expense groups, and to permit the introduction of a wide range of contracts permitting the insured to choose not only a contract suited to his needs but one which also extends premium rates reflecting the lower risk of any favourable age and/or medical experience that may be present. The individual is thus encouraged to seek not only the provisions of coverage he deems essential, but also those conditions of eligibility which are best suited, in terms of premium cost, to his own age, marital status, and past medical record.

There are, however, a number of implications in the resulting fragmentation of coverage. The contract that extends lower premium costs to one class of the population through the use of eligibility requirements implies a correspondingly increased premium cost for the contract without such requirements. The fact that coverage is available to persons of advanced age or in poor health does not mean that the cost of this coverage will be based on average experience for the population as a whole. Rather, that cost will reflect the experience of persons known as a group to incur significantly higher than average medical expenses. Whatever advantage favourable risk selection can produce for one class of insured individuals, an equal and offsetting disadvantage is implied for those persons excluded. The net effect, of course, is to eliminate, insofar as is feasible, transfers of income from those classes of persons whose experience is known to be generally good to those whose experience, at any point in time, is known to be less favourable. Within any single class, however, the function of coverage continues to be the transfer of income from the healthy or well to the sick or injured.[2]

Quite apart from the "fairness" of this system, the effective use of risk selection devices does, therefore, tend to force the premium cost of unrestricted coverage, that is, coverage without age restrictions or initial health requirements, to levels that are high in terms of the average medical experience of the population as a whole. Any class of "uninsurables" which results, however, is not uninsurable in the technical sense, but only because high premium costs may

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[1] As Chapter 3 develops in some detail, group contracts tend to be more permissive in these respects than non-group contracts. Therefore, this summary is directed more towards the impact of limitations in the non-group field.

[2] For quantitative estimates of this effect, see Chapter 5, Tables 5—2 to 5—9. Note, however, that if every covered family retained that coverage throughout its lifetime, the extent of that transfer which is an inter-family transfer would be less. Families might well pay a subscription that provides reserves in early years for the payment of higher expected expenses in later years.

effectively discourage the widespread election of coverage.[1] But whatever the cause, roughly 47 per cent of the Canadian population appeared in 1961 to be without direct insurance or prepayment coverage against the costs of medical care, and a further 9 per cent held coverage extending only to physicians' care in hospital.

The Social Issue

The central question, of course, is whether this less-than-universal coverage constitutes a social problem with costs borne by the society as a whole, or whether this partial coverage should be viewed as only a natural consequence of differing individual tastes, values, and circumstances.[2] Put somewhat differently, does failure to elect coverage, regardless of the wisdom of this action from the standpoint of the individual, affect primarily the individual, or does that choice impose costs of some significance on the nation collectively? For example, is the choice between insurance and self-insurance comparable to a routine daily purchase, where a bad decision can be costly but where this cost falls chiefly on the buyer, or is it more akin to the choice to educate or not to educate one's children where the resulting benefit or cost tends to affect the well-being of the child, and ultimately the future capabilities and performance of the nation as a whole?

In this light, the question becomes one of whether there are external effects created by private decision under the voluntary insurance or prepayment system. Quite apart from the welfare of the individual concerned, are others affected, favourably or adversely, by the election or rejection of voluntary coverage? When one individual elects coverage, presumably receiving benefits he considers equal to or greater than the premium cost privately incurred, is there an additional benefit (or cost) to other persons, or is that private action essentially independent of any broader social gain or less? If the latter is the case, if no effect external to the individual is apparent, then partial election of coverage throughout the population can be considered simply a manifestation of individual preferences,

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[1] The most over-riding factor affecting average medical expense per capita is age. Although the effect of age is less striking than is frequently supposed, a very marked increase in medical expenses can be anticipated with advancing age. For example, estimates developed in Chapter 6 of this study show annual medical expenses for single males over age 65 of roughly $70. This compares with annual costs of $30 for single males in the 35—44 age bracket. Experience for women, though less striking, is similar. But another characteristic of this society is that disposable income drops substantially with retirement, or alternatively for persons over, as opposed to under, age 65. Those adult groups with highest average medical expenses tend also to be those with the lowest annual earnings. To some extent, this factor is offset by reduced family size as children mature and become self-supporting, and by the generally higher asset position of older as opposed to younger persons. Nevertheless, the cost of medical insurance can be especially deterring to persons of advanced age, with only retirement income and without prior coverage.

[2] Universal coverage here refers to coverage which extends to *all* members of the population, not to coverage which is only universally available.

private gain being weighed against private cost, with individual action being taken in accordance with varying individual circumstances.[1]

If, on the other hand, external effects are present and significant, if the failure to elect coverage imposes collective costs, the question is whether the collective gain from more complete coverage justifies whatever cost, if any, is involved in public action to achieve that increase in coverage. And there can be alternative routes, with different costs, to the attainment of that increased coverage.

External Effects and Voluntary Coverage

There are, of course, external effects. The interest in national and provincial policy in this area has arisen neither by accident nor without due cause. First, and perhaps foremost, an external effect arises because this society has apparently decided that no individual shall go without at least a minimum of necessary medical care. The person who becomes critically ill will not be denied care simply because he cannot then pay the cost of that care.

Traditionally the physician provided this service without charge, or perhaps without expecting that any charge levied would in fact be paid. More recently both provincial and municipal governments have moved to accept this responsibility, or to share it with the medical profession, providing care through clinics or through agreement with groups of physicians in the case of indigent members of local populations.

In a sense, the availability of these publicly supported medical services, or the altruism of the medical profession, acts as a medical insurance policy for those individuals who can least afford to carry privately the risk of large medical expense. Hence an individual electing to be uninsured, and who subsequently requires care and receives it at public or physician's expense, imposes a direct cost on the community at large.

Second, as in education, external effects can stem from divergent interests within the family unit. Parents make medical decisions on behalf of their children. Husbands (or wives) may impose similar decisions on their spouses. A decision to economize with respect to medical expenses (or medical prepayment or insurance) by a household head may impose costs not only on him (or her) but also upon dependent members of the household. Even though the family as a whole, rejecting provision for future medical expense through the avoidance of, say, medical prepayment, may never reach the stage of requiring publicly (or physician) supported medical care, the effect may be that desirable medical services are denied dependent members of that household because of the direct cost of those services and the desire, and need, to economize when adverse medical experience occurs.

[1] This discussion makes no reference here to "ability to pay". Though, of course, relevant to the broad question of the availability of medical care, this issue is a separate one, and is considered in context below. See pages 188–190.

The case, however, for even considering such a divergence of interest between child and parent presupposes some special concern for the provision of medical care. This same possible conflict between the private welfare of child and parent arises with respect to all consumer or producer good expenditures. What is expended solely for the welfare of the parent must necessarily decrease benefits available to the child. This is true whether the product in question is food or clothing, entertainment or recreation, business expansion or private consumption. But in most areas, the welfare of the child is taken to coincide with the welfare of the parent, or *vice versa*. A few areas are singled out for special consideration.[1] Education has been one. Medical care is now another.[2]

As such, however, it falls in this category for one or both of two reasons. On the one hand, it may be that the special "rights" associated with medical care extend especially to the dependent or junior members of the nation. Alternatively, education and medical care may both be singled out as areas where early experience is critical. The child who lacks education as a youth bears, in all probability, the costs of that decision for all his adult life. Similarly the costs of failure to obtain needed and appropriate medical care, especially preventive care, at early periods can impose severe handicaps in later life. Uncorrected physical defects, lack of protection against communicative and destructive disease, malnutrition, and others, can produce marks, both physical and emotional, that are permanent, not transitory in their effect. In this sense health services become, like education, an investment, and an investment that must be made early if at all.

Related to this, of course, is the question whether there are not similar investments in "health" that can be made, and should publicly be encouraged, at all age levels, or at least at ages after the individual has ceased to be dependent upon the decisions of others. To a degree this is true. There is, however, the added fact that the individual at this later stage bears both the costs and benefits from such decisions. If needed health service is refused, the individual himself is the only one who suffers.[3] With a knowledge of the alternatives, the individual

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[1] The separate and distinct interests of the child are, of course, recognized in extreme cases of abuse or neglect. In general, however, the care of dependent children is considered the sole responsibility of the parent. It is exceptions to this general rule that are considered above.

[2] The past emphasis on medical care for children *in schools* suggests this kind of implicit evaluation. Note also that although the focus of this study is on physicians' services, many, if not all, of these comments are equally applicable to all phases of the health services.

[3] Two important qualifications are needed at this point. First, this entire discussion excludes consideration of externality arising from the "traditional" areas of public health. For the most part these relate to infectious disease. The external effects arising from the presence of infectious disease have long been recognized and are today regulated in even the most primitive societies. The social justification for compulsory isolation and/or preventative innoculation is sufficiently accepted to be ignored in this broader discussion. Second, there is a possible variation on an earlier theme which should be noted. If a household head, rejecting his own self-interest, fails to provide for his own well-being, he suffers the effects directly, but in so doing may also impose very real costs on those who depend upon him for their own well-being. This is a second illustration of the way in which family structure may interfere with a socially optional distribution of benefits within the society. However, this kind of situation is not unique to medical care or medical insurance and prepayment. These same costs may be imposed however the household head chooses to debilitate his earning capacity. But it is true that many devices by which such debilitation may be accomplished are coming to be viewed as medical in origin and capable of being deterred if not prevented by professional care. Alcoholism is an example.

is capable of acting, or at least attempting to act, without cost to the society as a whole.[1]

This, however, points to still another source of externality. It is not necessarily clear that the bundle of medical insurance and prepayment contracts available represents a set of alternatives among which the consuming public *can* be expected to choose wisely.[2] Nor, and this is a separate point, is it necessarily true that the range of contracts forthcoming under the voluntary system includes all feasible alternatives which would be considered most desirable by major segments of the general public.

The first of these refers to a situation that is not uncommon. Most consumers are, for example, characteristically ill-equipped to judge the quality of a pair of shoes from simple pre-purchase examination. Here, however, the consequences of unwise choice are minor. Where consequences are more major, regulation has tended to develop. Food products are subject to expert inspection. Building codes define the margin of safety in construction. The medical profession itself imposes standards for the practice of medicine. In each of these cases, and there are others, regulation attempts to ensure that a product or service will meet a standard that the user is not always equipped to define.

Medical insurance or prepayment is a case in point. The selection of a medical prepayment or insurance cannot be viewed as a simple process, as in entertainment or apparel, where the product is sampled, and, if it fails to please, another brand is tried. The consequences of an unwise choice can be too far-reaching. The services of the prepayment or insurance product may never be sampled until eligibility for a competing contract is lost.

Nor is this a problem of deception. Medical insurance or prepayment contracts are relatively staightforward. The list of eligible benefits is in most instances clearly indicated. Regulatory supervision of the carriers themselves reduces any likelihood that carriers will fail financially.[3] The mere fact that the insurance or prepayment contract is indeed a contract, and not a complicated or intricate piece of machinery, might well be considered to imply that the buyer must be aware of the full character of the product he seeks. In addition, a substantial

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[1] This point is made independently of earlier discussion of the external costs which "bad" decisions may impose. The special "investment" nature of medical services noted above merely fails to add, in this age group, to the earlier rationale for intervention.

[2] Arrow considers the special characteristics of medical services in exactly this context. Arrow concludes that: "The choice among these (policy) alternatives in any given case depends upon the degree of difficulty consumers have in making the choice unaided, and on the consequences of errors of judgement. It is the general social consensus, clearly, that the laissez-faire solution for medicine is intolerable". Kenneth Arrow, "Uncertainty and the Welfare Economics of Medical Care", *American Economic Review* (December 1963), p. 966.

[3] Concern with this particular feature of carrier behaviour is not so odd as might first be thought. It extends to the "health" area a form of regulation which has been exceedingly important in the case of other kinds of insurance where reserve funds are of far greater significance.

element of standard contract wording alleviates the possibility of major applications of guile in the sale of these contracts. Contract appraisal is not a matter of finding the "small print" at the bottom of the "last page".

The real problem runs deeper. Appraisal of alternative contracts requires information which, in one way, has nothing whatsoever to do with the terms of the contract itself. Admittedly contracts can be (and are) subject to exclusions and limitations. But the provisions of a given contract, and the applicable exclusions and limitations (if any) can be thoroughly understood, while the relative value of the contract remains a mystery. Medical insurance contracts provide protection against the financial cost of medical care in the event of illness or accident. In principle, this is simple. But in practice even illness, let alone any direct financial imposition from needed care, is far from simple. The average individual has relatively little knowledge of incidence rates; he knows less of required treatment. Add to this the necessity of some detailed understanding or physicians' billing practices, and a general inability to formulate even intuitively the probability distributions necessary in evaluating different contract provisions and premium structures is not altogether astonishing. Some contracts are guaranteed renewable; others are subject to carrier cancellation. Some contracts impose age limits; others do not. Some impose waiting periods; some exclude pre-existing conditions; some carriers require waivers in the event of unfavourable experience; some carriers contract to provide services; others impose deductibles; some cover nursing services; co-insurance factors are variable both within and among carriers, and so forth. Product differentiation is the rule, not the exception. And even where coverage is identical, benefit levels may (and do) differ enormously. An appendectomy covered by one contract can result in a valid claim of $75; another contract would pay $150.[1] The value of this provision depends not only on the fee a physician would charge for such a procedure, but also on the likelihood that the procedure will be required. And an appendectomy is only one of literally hundreds of possible procedures. How does the average individual choose? Knowledge of particular benefit levels, and of applicable physicians' charges, is apt to come after, not before, treatment is required. Hindsight frequently comes too late.[2]

In most areas of economic endeavour, flexibility of product design is to be sought, not avoided. It can be the means to improvement of the product or service, and, by such improvement, to increased well-being on the part of the interested public. That presumes, however, that the public or the consumer can accurately assess those alternatives. This is not always the case in the medical insurance field.

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[1] See above, Tables 3–10 and 3–19.

[2] This is not an indictment of carrier performance. Many excellent contracts exist and are widely sold. Carrier advice can be good advice. But the choice among competing contracts is not made by the carrier. Benefit levels, premium rate, and coverage provisions vary not because of any lack of carrier integrity, but because of choice exercised by the buying public. The choice is the buyer's. The carriers have merely provided the alternatives.

In this area, there are two distinct classes of buyer. The group, especially the large group, can be expert. Union representatives, negotiating for fringe benefits under collective agreements, have been far from naive. More than any other single institution, the trade union movement is responsible for buyer professionalism in the purchase of group coverage. Especially in the case of employer-employee groups, there is relatively little reason to suspect the ability or the shrewdness of the buyer.

The non-group buyer, on the other hand, has little of this expertise. Here, as well as elsewhere in the insurance field, the applicable rule may well be "pick the company, not the contract", on the grounds that the reputation and record of the carrier is apt to be a more reliable guide to value than lay judgement, however careful, of the uninformed. Whatever imperfection in this "market" stems from the uncertainty or inability of buyers in choosing rationally among alternatives is apt, therefore, to be concentrated largely in the smaller group or non-group segment.[1]

The second part of this question of the availability and character of available coverage really relates to the efficiency with which these prepayment and insurance services are provided. Does the voluntary system, for example, impose direct costs of administration that could be avoided under an alternative form of organization. Again there are differences between the group and non-group sectors.

For the group insurance carriers as a whole, after account is taken of returned premiums (but excluding reserves for future dividends), and lumping all carriers reporting together, about 23 per cent of gross premium income was retained by the carriers in 1961.[2] In the case of the prepayment plans, deductions for administrative costs and reserves were even less, at about 15 per cent. Eighty-five percent of subscription income received by the prepayment plans under group contracts was paid to physicians for services rendered to the group members. Individual insurance companies, with large numbers of persons covered, reporting gross loss ratios of 85 per cent or more for group business were not rare.[3]

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[1] There is the added, and important, consideration that the cost of an unintended lapse in coverage, through failure to pay premiums promptly, can be high. (See Chapter 3, pp. 42—45. Such lapse is most likely in the case of non-group contracts. Most group contracts provide for a single payment on behalf of all covered individuals. In the case of employer-employee groups, such payment is made by the employer.

[2] See Chapter 4, pp. 55 to 60 and Table 4—1. Note the distinction between what the Royal Commission on Health Services has termed a "retention ratio" (see Volume 1, p. 732) and the more conventional "loss ratio". A loss ratio is the ratio of claims paid to premiums received. A retention ratio is defined by the Royal Commission on Health Services as the ratio of premiums received less claims paid to claims paid. Thus this 23 per cent of premiums received retained by the carriers implies a loss ratio of 77 per cent, and a retention ratio or administrative cost of 30 per cent.

[3] See Chapter 4, Table 4—1.

In contrast, roughly 60 per cent of gross premium income received by carriers from non-group business remained with the carriers in 1961. Claims amounted to only about 40 per cent of gross premium income. As was argued in more detail in Chapter 4, these measures of the non-claims cost of coverage are crude for a variety of reasons. Nevertheless, it appears reasonably safe to infer that the administrative, sales, operating, profit, tax, and reserve costs of non-group contracts in force in Canada in 1961 were approximately four times greater, as a percentage of claims paid, than were corresponding costs for group coverage extended by the commercial insurance carriers.[1] Although this same differential was not apparent between the costs of group and non-group prepayment coverage, the general picture in 1961 suggests that the non-group buyer of protection against the risk of high medical and surgical expense was at a marked disadvantage *vis-à-vis* the corresponding group buyer in terms of the non-claims cost of coverage then available.[2]

Part of this differential can be attributed to additional services provided by carriers in the case of non-group contracts.[3] Furthermore, the generally lower level of protection provided by non-group contracts would also tend to raise loss ratios for non-group contracts in comparison with their group counterparts. This suggests that there is no necessary reason why the more expensive non-group contract, from the buyer's point of view, should reflect added profitability for the carrier. Nevertheless, for the buyer, non-group insurance coverage is an expensive alternative to group coverage. Indeed, on the basis of numerical estimates provided in Chapter 4, where medical services are financed through non-group insurance contracts, the out-of-pocket expense to the contract holders as a group is more than double the cost of medical services financed by claims against those contracts. This does not suggest the utmost in value in the light of alternatives posed by non-group prepayment or the pattern of group coverage as a whole. There is in addition the non-market alternative of universal coverage.

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[1] Table 4—3 of Chapter 4 also suggests that the level of claims per person covered was markedly lower for non-group than for group coverage. For this reason the insurance costs per contract, as opposed to per dollar of claims paid, would show a lesser differential between group and non-group contracts. The more limited coverage of the non-group as opposed to group contract, characteristic of the insurance contracts in force in 1961, explains, therefore, a significant part (roughly 50 per cent) of the differential insurance costs between these two classes of contract.

[2] Loss ratios reported by the prepayment plans as a whole were somewhat higher for non-group than for group contracts. The difference, however, was not great. This narrowing of differential costs between group and non-group coverage for the prepayment plans as compared with the insurance carriers probably results from the absence of any major difference in coverage between group and non-group contracts offered by the prepayment plans. (See Table 4—3, Chapter 4). In addition, the prepayment plans have not relied on promotional and sales activity in the non-group field to the extent that the commercial carriers have. It is also true that a number of the prepayment plans do not offer non-group coverage except through group conversion, with the result that the activities of the prepayment plans in the non-group field are not strictly comparable to those of the insurance carriers, where aggressive salesmanship rather than passive acceptance has been the general rule.

[3] These, of course, are not medical services but administrative and sales services provided by the carrier.

[4] Some costs associated with the provision of medical insurance or prepayment protection are largely independent of claims paid but depend rather on the number of contracts in force. (This is, of course, not true of the direct cost of processing claims, where costs would be expected to be roughly proportional to the number of claims paid.) Hence total costs per claim paid would, other things being equal, tend to be lower the more comprehensive the contract.

This alternative, universal coverage, would rule out for any individual or family the possibility of not electing coverage. Furthermore, as generally conceived, it would also eliminate the election of substitute coverage under a voluntary and private system of the type now existent.[1] On the other hand, given the experience of the larger prepayment plans in Canada, and of the Medical Care Insurance Commission in Saskatchewan, there is every reason to believe that universal coverage could be an exceedingly efficient alternative. It seems likely that the administrative and operating costs of such a program could, with experience, be held to between 6 and 10 per cent of the total cost of medical services rendered.[2]

There are, of course, other considerations, both favourable and unfavourable, to be taken into account in the evaluation of any such program. Several are explicitly introduced later in this chapter. The point made here, however, is only that, in comparison with the record of the voluntary carriers as a whole, a centrally administered program of universal coverage could accomplish not only an extension of protection to areas where none is now in force, but also a very marked reduction in the realized costs of those insurance services that are already provided. In this sense, the existence of the voluntary system, with the many alternatives it provides, nevertheless imposes a cost on those who do elect coverage.[3] That cost appears in the form of a higher price for medical insurance services than would be applicable were such services provided for the entire population under a single group plan.

FAMILY MEDICAL EXPENSE

The foregoing discussion relates primarily to an over-all view of coverage and institutional practice under voluntary medical prepayment and insurance in Canada in 1961. It develops material included in Chapters 2, 3 and 4.

The latter part of this study goes further. Information is assembled that relates to both the variation in, and the average cost of, selected categories of

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[1] These remarks assume that universal coverage is achieved by compulsory participation in a single joint plan, not by voluntary participation in a variety of independent programs. The provincial hospitalization programs are an illustration of essentially universal coverage with respect to hospital insurance.

[2] Judek, S., *Medical Manpower in Canada*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964, Chapter 6.

[3] Earlier points in this section have been set in terms of external effects in the election or rejection of voluntary coverage. The cost factor is somewhat different. It implies that a reduction in costs could be achieved by substituting universal group coverage in the case of those persons now receiving non-group voluntary protection. That saving would come primarily through avoiding selling and administration services related to non-group as opposed to group contracts.

medical expense. The first is relevant to the policy debate in that it provides a measure of the actual expense to which individuals or families would be subject if they did not have corresponding medical insurance or prepayment, but received medical services at the same rate as those corresponding families or individuals with coverage. It thereby provides a direct measure of the risk of self-insurance. The second, average cost, is here used as a measure of behaviour and as a device for assessing both the impact of prepayment on the utilization of medical services and the cost of alternative prepayment "packages".

The Distribution of Medical Expense

The distributions of medical expense in Chapter 5 permit estimation of the probability of medical expense of varying amounts. When combined with the average cost data of Chapter 6, the choice between self-insurance and medical prepayment or insurance coverage can be clearly illustrated. For example, for a couple with two children, the husband aged 35–44, the average cost of medical services realized by 4,928 such families for all medical services in 1961 under the Manitoba Medical Services contract HCX was $94.57.[1] This is to be contrasted with self-insurance for such a family, with the following probabilities of medical expense:

Medical Expense Exceeding	Probability[2]
$ 0	.982
25	.840
50	.670
100	.411
150	.255
250	.105
350	.040
500	.010
750	.001

Similar tables can be derived from Chapter 5 for each of the family types shown and for each of the six classes of medical expense included. A couple with two children, family head aged 35–44, however, is a common Canadian family, and this is the nature of the risk presented by self-insurance. For older or larger families the distribution of expense is more heavily weighted towards the upper tail. Average expense will also be greater. Thus, for example, the average cost of all medical services received by 677 couples with four children, head aged

[1] Chapter 6, Table 6–3. The actual subscription cost of such a family under an M.M.S. new group would have been $108.00. See Chapter 5, pp. 72–73.

[2] See Table 5–6. Percentages in that table add to 99.9 instead of 100 because of rounding error. Arbitrary correction has been made here in the zero class.

45–54, was $135.19 (Table 6–3) and corresponding probabilities are as follows:[1]

Medical Expense Exceeding	Probability
$ 0	.973
25	.871
50	.606
100	.498
150	.437
250	.161
350	.069
500	.019
750	.003

Under a voluntary plan – M.M.S. in this case – the basic question a family of this sort must decide is whether it prefers an inevitable medical expense of $108.00 or, alternatively, to face the probabilities indicated in the foregoing table.[2]

For those few Canadian families at the upper end of the income scale, the risk implicit in such a probability distribution is not severe. The distributions of Chapter 5 become thin at about $750 a year. Even the extreme cases in Table 5–18, containing all those families of 84,730 examined which had annual realized expense of more than $750, include no family with annual medical expense of as much as $1,750, and only nine with expense of more than $1,200 in the year in question. Nevertheless, more than one family of four in a hundred incurred expense of more than $500, and at the upper age brackets, the count was one in forty.[3] For *most* Canadian families, expenditure of this order would not be minor. Few Canadian families have private liquid savings, at any given time, amounting to as much as $500.[4] In most instances those savings are for some definite future need and are not held merely against the contingency of high medical expense.

In addition, medical expense of this order will not be an isolated thing. Illness sufficient to create medical expense in these amounts almost necessarily

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[1] This particular distribution is also weighted more heavily in the low expense categories (i.e., this distribution is more varied at both ends). There is no obvious explanation. It may, however, be related to declining maternity costs in the older age groups. See Table 5–8.

[2] With perfect underwriting, and with zero administrative costs, the applicable "certain" expense would be $94.57. In fact, the prorating of physicians' fees by M.M.S. would, in principle, make the $94.57 approximately applicable were rates to be set separately for individual family types. In practice, of course, the single subscription for all family types implies substantial cross-subsidization even on the basis of average costs. See Chapter 6, Table 6–3, and compare with Chapter 5, pp. 72–73.

There is, of course, the other consideration that entry to a voluntary program provides not only avoidance of uncertainty with respect to current rates of expense, but also the guarantee (in the absence of cancellation or other loss of coverage) of future eligibility. A family may, therefore, be influenced in the direction of current participation by the fear that were self-insurance elected now, the alternative of future participation in a medical insurance or prepayment plan might be lost.

[3] See Chapter 5, Table 5–6.

[4] In 1959, one-half of all non-farm families and unattached individuals held gross liquid assets (bank and other cash deposits, and government and other bonds) of less than $307. One-half of these non-farm families and unattached individuals with incomes in 1958 of less than $4,000 held gross liquid assets of less than $170. See Dominion Bureau of Statistics, *Incomes, Liquid Assets, and Indebtedness of Non-Farm Families in Canada – 1958*, Table 16, p. 37.

implies other related expense. In the mid-twentieth century drug costs are apt to be substantial.[1] Nursing services may be required. Needs for special equipment of one sort or another are possible. Finally, should illness strike the household head, not only is there expense to be reckoned with, but a normal source of income may be curtailed. The distributions of medical expense outlined here, and presented in more detail in Chapter 5, are annual cross-sections. They take no account of any tendency for illness, and hence high expense, to be chronic, or of the increased likelihood of related expense. In this light, the case for protection through medical insurance or prepayment, voluntary or otherwise, against the risk of high medical expense is more readily established.[2] Medical needs beyond the financial capabilities of individual families will ultimately become a public responsibility. Medical insurance or prepayment coverage provides protection not only for the individual family, but for others as well.

Prepayment and the Average Cost of Medical Care

In a policy context, however, another key element lies in the ability of prepayment to influence the distribution and availability of actual medical services within the population. Here there is substantial evidence that the utilization of medical services is highly subject to individual discretion. Individuals and families can and do "economize" on medical expenditures. Observed differences among families in this regard also reflect acquired or environmental values. Urban families are traditionally high users of physicians' services; some religious groups reject medical treatment. But beyond these differences, there is overriding evidence of the role of price as a factor affecting the use of modern medicine.[3] There can also be abuse and waste, from a medical standpoint, of medical facilities. But the major and identifiable increase in the volume of medical care received under comprehensive medical insurance, compared with that obtained by otherwise similar families without such protection, is sufficient to rule out abuse as the prime contributor. To be sure, there may be other factors. Some "medically prone" persons may be included in the "covered" population. Similarly covered persons come disproportionately from urban areas and upper income groups, where medical services have traditionally been used more intensively. But even allowing for such factors, the conclusion seems inescapable that price is a significant factor affecting the utilization of medical services. Available evidence, presented and argued in detail in Chapter 6, suggests that with the elimination of a direct and privately paid fee-for-service charge, the utilization of physicians' services, even after an initial increase, may show a subsequent gain of as much as 30 per cent over a five-to ten-year period.

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[1] Expenditures for prescription drugs in Canada in 1961 are estimated at 29 per cent of the corresponding total expenditure for physicians' services. See Royal Commission on Health Services, Ottawa: Queen's Printer, 1964, Volume I, Table 11—1, page 427.

[2] There is little, if any, evidence available either confirming or contradicting the presence of a long-term element of chronicism in medical expense. Some preliminary testing in this direction is attempted in Chapter 5. See especially pp. 97—107. and Tables 5—10 to 5—17.

[3] See Chapter 6, especially pp. 136 to 150.

Many will see this shift as the natural result of a reduction in price, and argue that this shift in itself represents waste. The implication is that this form of pricing stimulates an overabundance of medical services in relation to the other products and services necessary to economic welfare.

That argument, however, is in difficulty for two reasons. A prepayment contract quotes a single price for a package of services. In the case of truly comprehensive prepayment, that package includes all necessary medical care. It may well be that an individual or family would prefer to pay a single price for that package than the expected cost of each of the individual services that are, on the average, involved. This may reflect a payment for risk avoidance but it can also be a conscious and deliberate way of obtaining, or consuming, a higher level of medical services. In this sense it simply means that an individual might, for example, be willing to buy more medical services if the risk element is avoided and chooses to do so by contracting to pay the average price for that higher level of medical services in preference to the lower expected cost of a lesser standard of medical care which would be received were each service priced individually. The buyer pays, on the average, the full cost of the services he receives. He does so, however, on the basis of a pricing system which makes the private cost of the marginal service negligible. He may do so with the full knowledge that he does not, at the margin, wish to be discouraged from an additional service or test which medical knowledge might indicate would be beneficial. He simply makes an all or nothing choice. Similarly an individual may elect auto ownership to auto rental, at a higher cost, to have the convenience of ready transportation at low marginal cost, and to avoid the deterrent of higher marginal cost at each moment of decision. To some, this may seem planned irrationality. To those, the prevailing patterns of consumer behaviour must present at least minor elements of contradiction.

The second reason rests on a somewhat different foundation. Medical services are not readily assessed by the consumer. The patient rarely knows what he "needs". Medicine is one of those peculiar industries where the provider of services is also the trusted advisor, indeed the only recognized competent advisor, of the buyer of those services.[1] Elsewhere such a situation would

[1] A comment on the peculiar position of the medical practitioner as consumer consultant and seller of services is provided by Kenneth Arrow, who writes: "A few illustrations will indicate the degree of difference between the behavior expected of physicians and that expected of the typical businessman. (1) Advertising and overt price discrimination are virtually eliminated among physicians. (2) Advice given by physicians as to further treatment by himself or others is supposed to be completely divorced from self interest. (3) It is at least claimed that treatment is dictated by the objective needs of the case and not limited by financial considerations. While the ethical compulsion is surely not as absolute in fact as it is in theory, we can hardly suppose that it has no influence over resource allocation in this area. Charity treatment in one form or other does exist because of this tradition about human rights to adequate medical care. (4) The physician is relied on as an expert in certifying to the existence of illness and injuries for various legal and other purposes. It is socially expected that his concern for the correct conveying of information will, when appropriate, outweigh his desire to please his customer". (Footnote references deleted). See K.J. Arrow, "Uncertainty and the Welfare Economics of Medical Care", *American Economic Review* (December 1963), pp. 949–50. Arrow continues to develop some implications, especially with respect to the provision of hospital services.

immediately be suspect. Members of the government charged with responsibility for procurement, say, of the nation's defense requirements would not be looked upon with favour if they simultaneously were major owners of the corporations from whom they buy. The sellers of most commodities are not regarded by their customers as the most objective appraisers of their products in comparison with the products of others. Yet in medicine this is the case. The very licensing of medical practitioners, and the ethical standards developed by the medical professions themselves, bear testimony to the uniqueness of this situation. Here the best judge of the customer's needs is not the customer but the provider. If, under these circumstances, it could be argued that the physician, taking account of the patient's "ability to pay", reaches a decision regarding the amount of service to render that the patient would elect had he the physician's expertise, the case for direct payment on a fee-for-service basis, in comparison with a lump sum payment for all necessary services, might have added weight. As it stands, however, the patient generally does not have the professional insight necessary to make a fully rational decision. He may be advised, but in the final analysis he must accept or reject the decision that a procedure "should" be rendered even though he does not fully understand.

Furthermore it seems likely that a high proportion of the personal "economy" in the use of physicians' services demonstrated by that sector outside the insured group stems not from the rejection of professional advice rendered, or from a lesser volume of service rendered by physicians in recognition of more limited ability to pay, or even from billing at less than fee-schedule rates, but rather from an avoidance of contact with physicians in all but the more extreme cases of recognized need. Indeed, the publicity which the medical profession has provided regarding the value of preventive medical care suggests that if anything the volume of service elected by the population generally is less than would be rational even with direct payment for services rendered on a fee-for-service basis.

Although a definitive answer is impossible, it nevertheless seems likely that medical services are an illustration of a product that has tended, because of a lack of specific knowledge among the population generally, to be consumed at a less than economic rate in terms of the full benefits and costs thereof. If this is the case, then prepayment insurance tends to correct the resulting imbalance. The argument that it goes too far in this direction, obvious in certain flagrant individual instances, is difficult to sustain as a general proposition.

The Case for Public Action

In this light, two aspects of medical care, the first that a collective decision has been made that no individual or family should be denied needed care, and the second that self-insurance leads to significant under-utilization of medical services, lend support, though somewhat differently, to the case for public support. On the one hand, a significant proportion of individuals without

voluntary coverage but with extreme adverse experience, will receive care but will not directly pay its full cost. The residual will be borne either by the attending physician, by the state in some form, or by other interested individuals or family members. The cost of self-insurance will not be borne entirely by the individuals electing it.

Second, the demonstrated voluntary avoidance of medical care raises additional problems. Earlier in this chapter the possible divergence in this regard between the interests of household heads and their dependents was noted. The tendency toward low utilization by self-insured families suggests that at least a part of this cost is borne by the dependents of household heads making decisions in this regard. Those decisions can be costly. There is the further question whether, even for household heads, the avoidance of useful medical treatment does not generate costs which fall more generally on the population at large. In the case of certain infectious diseases, the effect is obvious. In most instances, though not all by any means, these particular cases are already subject to regulation. Whether or not there are additional costs, even in the case of non-communicable illness – costs in terms of absenteeism or shortened work lives – that could be avoided economically through increased medical attention, is,in formal quantitative terms, moot. There is, however, a strongly expressed and general medical opinion that a portion of such medical care, and preventative care in particular, may be an economic investment for the nation as a whole.[1]

Universal coverage, whether voluntary or compulsory, would alleviate many of these problems. The widespread success of the voluntary carriers in providing substantially complete coverage for more than a third, and at least some coverage for more than half of the Canadian population, has unquestionably accomplished a great deal in this direction. Tax-supported schemes extending medical care to underprivileged individuals and families have also contributed. So undoubtedly has the medical profession itself. Group contracts, heavily supported by employers as well as employees, provide remarkably complete coverage in Canadian working establishments. Nevertheless, for the nation as a whole, coverage is far from universal. Those who see significance in the burden which this places on individual families in terms of lower than average or even recommended medical care, those physicians who bear disproportionately the cost of free services rendered, those taxpayers of municipalities providing care to those who might have contributed or to household heads who might have been wise but were not, or perhaps those misled by the provisions of less than adequate voluntary contracts – all these individuals will see a social problem and will look to public action for a corrective.

[1] See for example, *The Health League of Canada*, brief submitted to the Royal Commission on Health Services, Toronto, April 1962, Appendix C.

Universal Coverage and Universal Availability

It is tempting to seek such a corrective merely by extension of the availability of coverage to all comers. Such a policy would attempt to define a class of "uninsurables" – persons or families to whom, by reason of either health or income, existing protection under a voluntary system is denied and to whom such protection would be extended. In principle, the members of each of these groups could be defined. Indeed, the rapid development of modern underwriting techniques, supported by large enrollment, has already substantially reduced the former. In at least some areas of Canada, full (and non-cancellable) medical coverage is available on non-group basis to all persons regardless of age, health or occupation. The class now lacking coverage beacuse of income limitations poses a problem of definition, but not one that is insurmountable. This, however, is not the key issue.

The basic problem is more fundamental. "Ability to pay" is, in the above context, judged in terms of the cost of a medical insurance or prepayment contract.[1] That cost will reflect average medical expense for the group in question, plus a loading fee to cover the administrative, operating, and other costs of the insurance or prepayment services provided. Even this combined total, however, will be small in terms of the potential cost of medical care in the absence of the protection offered. Delineation of the group unable to pay the subscription or premium cost, and enforcement of universal coverage within that group, would still leave the majority of the population within the voluntary sector.[2]

Within that majority, if current experience is a guide, a significant proportion of the population will decline coverage, and few indeed among that group will be able to pay, by these same criteria, the cost of necessary medical care in the event of adverse experience. Contrary to frequent assertion, "medical indigency" to use the popular and not very meaningful phrase, can be defined only in terms of actual medical experience. The family with zero medical expense, and more than 12 per cent of Canadian families fall within this category, can scarcely be called medically indigent. On the other hand, few families would not be at least temporarily indigent if confronted with expense for physicians' services of more than $750 in any given year. Indeed, with median liquid assets of only slightly more than $300, the impact of expense for physicians' services of $500 in any given year, especially in view of added expense for related health

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[1] Note that this concept is also defined in terms of a contract providing only for (some) physicians' services, *not* the full range of health services.

[2] Guy C. Clarkson, for example, estimates that 8.4 per cent of the total Canadian population "may (on this basis) require complete assistance" with the cost of medical services insurance, and that a further 16.8 per cent "may require partial assistance". Clarkson refers to the cost of physicians' services alone. If coverage for all health services were included, these percentages would be higher. *The Cost and Ability to Pay for Medical Services Insurance in Canada and Its Provinces*, Canadian Medical Association, Toronto, 1962.

services, can reasonably be expected to have this same effect.[1] When the potential impact of illness on earning power, as well as the tendency for medical insurance to rise with advanced age when earning power concurrently declines, are considered, the case for universal coverage is only strengthened. The essential point is that if coverage is not elected it is not the cost of coverage but the realized cost of physicians' services that is relevant. In the absence of universal coverage, medical indigency can be expected in the uninsured sector with a regularity approximating that of the incidence of "high" medical expense itself.[2] Furthermore, even where such indigency levels are not reached, those influences toward under-utilization indicated earlier, and the external costs they pose, will continue to be present.

To those, therefore, who see a social problem in these externalities, the corrective is not universal availability but universal coverage. If the former were to result in the latter, then sheer economy would argue for universal coverage, at least at some minimal level, thus avoiding the differential cost of non-group protection earlier identified. If universal availability results in less than universal coverage, as the experience to date indicates, then the latter takes on added meaning as differentiated from mere availability. Either way the corrective implies a measure of universal "group" coverage, and some way of enforcing universal participation.[3] This is not to negate in any way the contribution that increasing availability has made, but the ultimate goal is universal coverage, not universal availability.

The Component Costs of Comprehensive Care

Chapter 6 of this study, by looking to the average realized costs of various medical services for particular classes of family, provides a variety of measures of the medical costs of alternative prepayment "packages" that might be considered in this context. In the absence of agreement regarding a particular "best" alternative, these estimates have not been carried to the point of a single estimate for a particular plan in a particular area. Rather, the attempt is first to show the general magnitude of such costs and second to determine the extent to which those costs are influenced by the exclusion of some classes of coverage and by the variation in certain demographic characteristics of the Canadian population among the provinces. Measures of the extent to which growth in these

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[1] See footnote 4, p. 189.

[2] The definition of "high" is arbitrary, of course. In most instances $500 or $600, in view of other related expenses, would be considered so. This is roughly three or four times the annual cost of comprehensive prepayment coverage. It is true, of course, that for some families, those with very high incomes or assets, the cost of medical care, apart from extreme instances of extra billing, poses no real threat. In relative terms, the number of such families is minor. These families are also among those most likely to elect coverage.

[3] Note that participation would here mean simply eligibility for benefits. There would be no need to require that those benefits be accepted.

average costs can be anticipated with increased experience with "free" medical services are also provided.[1] Those estimates are presented and described, as well as qualified, in Chapter 6. Here only a few general comments are appropriate regarding the general pattern displayed.

In particular, the Manitoba estimates indicate the relative contributions to the total cost of several component parts of comprehensive medical prepayment. To some it will come as a surprise that the average cost of *all* in-hospital care is only about equal to the cost of home and office calls alone. The cost of surgery and maternity, including well-baby care, is less than one-third the total cost of comprehensive care. Full laboratory and X-ray services, frequently subject to exclusions in commercial contracts, represent, on the average, only about 15 per cent of this total.

The implication is, of course, that a universal program providing physicians' care in hospital could be extended to the population of Canada as a whole at a per capita claims cost of less than $12.00 per person per year.[2] Alternatively the cost of all services except home and office calls would appear to be roughly two-thirds the cost of full medical care. Furthermore, in each instance, the rate of growth in these costs following the introduction of such a plan would be markedly less than the rate of increase in the cost of a full, or comprehensive medical plan. If the full range of laboratory and X-ray services were added, this would increase the cost of an in-hospital plan by about 50 per cent. If those services (laboratory and X-ray) as well as home and office calls were excluded, the cost of coverage would be roughly 50 per cent of the total cost of full care. These relationships are illustrated below as derived from the experience of persons with from two to three years' experience with comprehensive medical prepayment.

Medical "Package"	*Per Capita Cost*
All Services	$29.27
In-hospital Services	11.97
Surgery and Maternity	10.50
All Services Except Home and Office Calls	19.39
All Services Except Home and Office Calls and Laboratory and X-ray Services	14.50
In-hospital Services and Laboratory and X-ray Services	16.79

[1] Medical services would, of course, be free only in the sense that the cost to the individual would be independent of the amount of services received. Directly or indirectly, however, the total cost of those services would be borne by the population as a whole, the contribution of each individual or family being determined by considerations other than the need for medical care or the actual cost of services rendered.

[2] This discussion takes some liberties with the estimates in Chapter 6, which relate to the cost, at 1961 Manitoba fee-schedule rates, of physicians' services (and laboratory services) rendered. They do not take account of either the M.M.S. pro-rationing of physicians' fees at less than the full fee-schedule rate or the administrative expenses realized by M.M.S. In practice these about cancel out, so that the foregoing estimates would approximately equal the full cost that would be obtained from a generalization of the M.M.S. experience.

Of these packages, the in-hospital package, or a package including all services except home and office calls have the greatest traditional appeal.[1] There is no doubt that substantial apparent savings can be realized by exclusions, especially if the services excluded are those that tend to respond most dramatically to the absence of direct charge.[2]

From the standpoint of public policy, however, the issue of cost can be overstated.[3] The more important question is whether this shaving of benefits would reduce the effectiveness of a universal program in meeting the objectives that justify its consideration in the first place. In part this is a question of the residual risk of high medical expense which would continue to confront the public following the introduction of a less-than-comprehensive universal plan. There is also the question whether those limited plans would be sufficient to ensure that the avoidance of medical care resulting from direct fee-schedule payment is reduced to an acceptable level if this avoidance is viewed as a social problem.

The first of these questions is answerable by referral to the distribution of those expenses derived from services *other* than those included by the limited plan. For an in-hospital plan, for example, is the distribution of medical expense from out-of-hospital expense such that self-insurance for the latter does not pose problems similar to those derived from self-insurance for all medical expense? Similarly, for a plan including all services other than home and office calls, is expense from home and office calls distributed sufficiently regularly among families so that the risk of financial debilitation from home and office calls is negligible? This is the underlying purpose of the corresponding distributions of expense presented in Chapter 5.

Again, interpretation of those distributions requires more than a simple appeal to fact, and readers with different attitudes will draw from them different conclusions. Nevertheless, the following comments can be made. First, with reference to the in-hospital alternative, it is quite clear that in-hospital expenses *are* distributed more unequally than out-of-hospital costs. This, of course, is true especially at the low end of the expense scale, but it is also true, though to a lesser extent, at the top end. It is expense at the top end, however, that is most immediately relevant. Here differences, although present, are not as great as is frequently assumed. For couples with two children, male family head aged 35–44, one family in a hundred can be expected to incur total annual expenses of more

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[1] In Saskatchewan, for example, Medical Services Incorporated offered a comprehensive non-group contract only when subject to a 50 per cent co-insurance factor applicable to home and office calls. This was a straightforward effort to control expense.

[2] Even greater "savings" could be obtained from the imposition of deductibles payable directly by the participant. (See Chapter 5, p. 76ff).

[3] What is involved here is chiefly the collective payment for services that would, for the most part, be paid for anyway. This is not a direct transfer to the public sector of resources valued at roughly $30 per capita, but rather the altering of a traditional means of financing services which would continue to be provided, albeit in increased volume, under much the same institutional arrangements as before.

than $500. One in a thousand will have expenses exceeding $750.[1] From in-hospital costs alone, three families in a thousand will incur expenses of more than $500. From out-of-hospital expense, only one person in a thousand would be expected to fall in this category.[2]

Had these data shown highly significant differences between the distribution of in-hospital and out-of-hospital expense – for example, had the finding been that the risk of high total medical expense stems entirely from high in-hospital expense, with out-of-hospital costs ranging, say, from zero to $60 or $70 per year per family, the case would be strong that as a risk-avoiding technique in-hospital coverage is sufficient. The wide disparity in family out-of-hospital costs tends to weaken this argument.[3]

The distribution of expense from home and office calls *is* of course more completely confined to the lower expense classes. From a purely insurance standpoint, the case *is* therefore stronger for self-insurance against expense from

[1] The annual nature of these data tend to bias downwards these high-expense categories. For high-expense families, the illness is apt to be one of more than momentary duration. If, for example, severe illnesses last an average of six months, and if the onset of these illnesses is random with respect to time of year, in half the cases the total annual expense shown will be less than the total cost of the major illness in question, provided the cost is incurred evenly throughout the duration of the illness. On an average, half of these severe cases would show only half their respective total costs under these assumptions. Of course, these assumptions are clearly far from valid. They are intended only to illustrate the problem.

[2] The selection of this type of family is illustrative only. Comparisons for other "types", while not markedly different, do show some variation in terms of the relative importance of different categories in the extreme expense groups. See Chapter 5, Tables 5–2 to 5–9. Table 5–18 provides a listing of these components of total cost for all families in the Manitoba sample with total annual expense of more than $750.

[3] This analysis did not make detailed inquiry regarding the degree of association between in-hospital and other medical expenses. The distributions of Chapter 5, however, suggest that this association is not close. This finding was more directly supported by simple regressions relating out-of-hospital expenses to expenditures for surgery and maternity, and to all in-hospital expenses for all households, head aged 15–74, all single persons aged 15–74, and all childless couples, head aged 15–74. Results can be summarized as follows:

Regression of Out-of- Hospital Expense on Expense for:	All Households	All Child-Less Single Persons	All Chidless Couples
Surgery and Maternity			
Intercept	49.34	24.83	53.69
Regression Coefficient	.26	.23	.21
R^2	.070	.055	.044
In-Hospital Services			
Intercept	47.72	23.83	51.40
Regression Coefficient	.28	.25	.25
R^2	.095	.092	.077

The coefficients suggest that something less than ten per cent of the variation in out-of-hospital expenses can be explained on the basis of either in-hospital expenses, or expenses for surgery and maternity. Of the two, however, in-hospital services appear to be the better predictor of other medical costs. The intercepts shown may be interpreted as estimates of the average out-of-hospital expense of those families with zero expense for in-hospital services or surgery and maternity respectively. Corresponding averages for all families: 56.84 (all households); 27.22 (all childless single persons); and 58.55 (all childless couples).

this source. Nevertheless, home and office calls can be expensive. At the very upper extreme, one single man incurred annual expense from this source of over $1,400.[1] But this is an extreme, and not meaningful in an aggregative sense. On the other hand, expense from home and office calls of more than $150 a year is not rare, and $250 is exceeded with about the same regularity as $500 is exceeded in the case of all out-of-hospital expense. Whether this risk justifies the relatively expensive inclusion of these services as benefits in any universal plan is questionable. There is the added fact that home and office calls are generally spaced over some period of time, each individual call representing a relatively small addition to total cost. The risk of sudden financial crisis from this source is relatively low.

The case for the inclusion of home and office calls, as for X-ray and laboratory services, is more readily based on the argument for avoiding the deterrent of a direct charge for these services. This is the argument used by the prepayment plans themselves in advocating comprehensive care, partial coverage being viewed as an incentive to an imbalance in the medical care received by subscribers. This case is stronger to the extent that preventive care, which forms a significant part of home and office call and other diagnostic procedures, yields dividends by averting a future and more serious need for care. By making early diagnosis possible, this is undoubtedly the case, though the quantitative significance of this factor is as yet unknown. In general, those who advocate universal *comprehensive* coverage must rely heavily on the assertion that "economy" induced by a direct fee for home and office call procedure is false economy; that the divergence between medical care received by the rich and not-so-rich is inappropriate; and that there is a positive social need to encourage further use of existing or potential medical services, especially in the case of dependent family members, through this device. Curiously enough, those who oppose this extension will see waste in the expansion of medical services resulting from the removal of a direct private fee associated with services received. The choice is, therefore, not so much one of feasibility, but rather one to be made in terms of the level of medical services considered appropriate in Canada at this time.

CONCLUSION

This study does not attempt to develop formal policy proposals in the area of medical services. What it does attempt is an analysis of the performance of the voluntary medical prepayment and insurance sector and an examination of some aspects of medical care that are relevant to a study of public policy in this area.

The former is concerned with identification, and where possible, measurement of some of the benefits and costs of voluntary medical insurance and prepayment. The latter has focused on those aspects of the utilization of medical services under

[1] See Chapter 5, Table 5–18.

prepayment that indicate the consequences of a more universal application of this means of financing physicians' services. This information has been developed and presented for a wide range of individual types of family. Both average and extreme bahaviour have been illustrated. Measurement of the impact of age, family composition and size, experience with prepayment, as well as crude indicators of location, has been attempted for a variety of medical services. These measures, given the detail available, will permit the reader to make his own estimates of the cost and implied utilization of a variety of "plans". The central purpose of this study, however, has been not to make such estimates, though some are provided, but rather to test for the presence or absence of behavioural factors important in assessing the desirability of the more universal plans. Again no final judgement is attempted. The data provided may be useful, however, to those who wish to make such a judgement.

The reader may be curious that, where cost estimates are provided, no attempt is made to translate these to applicable premium structures, or even to discuss the alternative forms of financial support which could be forthcoming with universal coverage. This question, however, is a fiscal one. With voluntary coverage, premiums will tend to reflect the underlying risks for the eligible groups defined by applicable underwriting restraints. With mandatory universal coverage, that requirement would not be present. A premium structure, in comparison with actual costs, would determine not the nature of various benefits elected but only the degree to which families of one type are implicitly subsidized by families of another type. The issue here is akin to the determination of tax structure and is only indirectly related to the fact that the program under consideration is for the provision of medical services. There may be good reason for segregating these accounts in order that flexibility may be maintained independently of more general fiscal issues, but the setting of rates or premiums is one that will reflect judgement regarding optimal methods of finance, not optimal methods for the provision of medical services. As before, sufficient data on the structure of the cost of medical care under universal prepayment are provided to permit the "cross-subsidization" implicit in any particular rate structure to be readily determined. Throughout this study, the emphasis has been empirical. To a large degree, the supporting text merely qualifies data which are presented. If here, as elsewhere, those data prove useful, the study itself will have served its purpose.

APPENDIX I

SURVEY OF THE VOLUNTARY CARRIERS

Questionnaires, as reproduced at the end of this appendix, were mailed to 263 voluntary carriers during the summer of 1962. These 263 included all companies registered to transact sickness insurance in Canada under the Canadian and British Insurance Companies and Foreign Insurance Companies Acts, as well as those organizations licensed to transact sickness insurance by any of the ten provinces. These carriers were identified with the assistance of the Canadian Health Insurance Association, Trans-Canada Medical Plans (1960), the Co-operative Medical Services Federation of Ontario and the provincial Departments of Insurance or their equivalents.

In all, 194 carriers responded to this questionnaire. Ninety-five, each issuing contracts with benefits directly related to physicians' services, returned the completed questionnaires that form the basis for Chapters 2, 3 and 4 of this study. A further 93 in some way acknowledged receipt of the questionnaire. Five of these returned completed questionnaires too late for inclusion in the tabulations here presented. Fifteen returned completed questionnaires but did not issue contracts in the health field other than loss of income insurance. The other 73 acknowledged, but did not complete, the questionnaire. In most instances, some reason was given. Most frequently, this reason was either that health insurance was not issued or that the volume of business in this field was insufficient to justify return of the questionnaire. Several indicated that data of the sort required to complete the questionnaire were not available. A number gave no reason but nevertheless returned the blank questionnaire or otherwise acknowledged its receipt.

Seventy-four of the 263 carriers contacted in no way acknowledged that the questionnaire had been received.

Appendix Tables I–1, I–2, and I–3 list these carriers and their locations according to their action in completing, acknowledging or ignoring the questionnaire. A facsimile of the questionnaire itself, with its instructions, is reproduced below. This questionnaire was mailed with a covering letter explaining its purpose and assuring the confidentiality of individual replies. Follow-up letters were sent roughly six weeks later to all carriers who had not by that time returned completed questionnaires or indicated that the questionnaire was inapplicable.

APPENDIX TABLE I – 1

CARRIERS RETURNING COMPLETED QUESTIONNAIRES, BY TYPE OF CARRIER AND LOCATION OF CANADIAN HEAD OFFICE, 1962[1]

Name and Type of Carrier	Location of Canadian Head Office
Stock Insurance Companies	
Aetna Life Insurance Company	1425 Mountain Street, Montreal 25, P.Q.
Allstate Insurance Company	790 Bay Street, Toronto 2, Ontario.
American Casualty Company	Winnipeg, Manitoba.
Canada Health & Accident Assurance Corp.	14 Erb Street, W., Waterloo, Ontario.
Canadian Premier Life Insurance Company	Natural Gas Building, Winnipeg 2, Manitoba.
Combined Insurance Company of America	129 Adelaide Street, W., Toronto, Ontario.
Connecticut General Life Insurance Co.	220 Bay Street, Toronto, Ontario.
Continental Casualty Company	160 Bloor Street, E., Toronto, Ontario.
Co-operators Insurance Association	30 Bloor Street, W., Toronto 5, Ontario.
Crown Life Assurance Company	120 Bloor Street, E., Toronto, Ontario.
The Dominion of Canada General Insurance Co.	26 Adelaide Street, W., Toronto, Ontario.
The Dominion Life Assurance Co.	111 Westmount Road, Waterloo, Ontario.
Excelsior Life Insurance Company	36 Toronto Street, Toronto, Ontario.
Federal Life and Casualty Co.	191 Eglinton Avenue, E., Toronto, Ontario.
Global Life Insurance Company	250 University Avenue, Toronto, Ontario.
The Great West Life Assurance Co.	177 Lombard Avenue, Winnipeg, Manitoba.
The Halifax Insurance Company	1303 Yonge Street, Toronto 7, Ontario.
The Imperial Life Assurance Company of Canada	20 Victoria Street, Toronto 1, Ontario.
Industrial Life Insurance Company	1080 St. Louis Road, Quebec, P.Q.
Insurance Company of North America	491 Eglinton Avenue, West, Toronto 12, Ontario.
London Life Insurance Company	London, Ontario.
The London & Lancashire Group	61–65 Adelaide Street, E., Toronto 1, Ontario.

[1] Includes 95 carriers providing usable questionnaires.

APPENDIX TABLE I – 1 (Continued)

Name and Type of Carrier	Location of Canadian Head Office
Loyal Protective Life Insurance Company	372 Bay Street, Toronto, Ontario.
North American Life and Casualty Company	149 Main Street, E., Hamilton, Ontario.
The Northern & Employers Group	276 St. James St., W., Montreal 1, P.Q.
Norwich Union-Scottish Union Group	60 Yonge Street, Toronto 1, Ontario.
Occidental Life Insurance Co. of California	291 Dundas Street, London, Ontario.
The Paul Revere Life Insurance Company	Minden Building, King Street, E., Hamilton, Ontario.
Phoenix of London Group	350 Bay Street, Toronto, Ontario.
Provident Life and Accident Insurance Co.	119 Adelaide Street, W., Toronto, Ontario.
The Prudential Assurance Company, Limited	635 Dorchester Boulevard W., Montreal 2, P.Q.
St. Paul Fire and Marine Insurance Company	402 Paris Building, Winnipeg, Manitoba.
Sun Insurance Office Limited	48 Yonge Street, Toronto 1, Ontario.
The Travelers Insurance Company	550 Sherbrooke Street, West, Montreal, Que.
Zurich Insurance Company	111 Richmond Street, West, Toronto 1, Ontario.
Mutual Insurance Companies	
American Mutual Liability Company	44 King Street, W., Toronto, Ontario.
The Canada Life Assurance Company	330 University Avenue, Toronto, Ontario.
Confederation Life Association	321 Bloor Street, E., Toronto, Ontario.
CUNA Mutual Insurance Society	430 Whitney Avenue, Hamilton, Ontario.
Employers Mutuals of Wausau	Wausau, Wisconsin, U.S.A.
The Equitable Life Assurance Society of the United States	Suite 505, Canadian Imperial Bank of Commerce Building, 1155 Dorchester Boulevard, W., Montreal 2, Quebec.
Federated Mutual Implement and Hardware Insurance Company	500 University Avenue, Toronto 2, Ontario.
John Hancock Mutual Life Insurance Company	372 Bay Street, Toronto 1, Ontario.
Liberty Mutual Insurance Company	321 Bloor Street, E., Toronto 5, Ontario.
Lumbermens Mutual Casualty	88 University Avenue, Toronto 1, Ontario.

APPENDIX TABLE I – 1 (Continued)

Name and Type of Carrier	Location of Canadian Head Office
Maccabees Mutual Life Insurance Company	Room 236, Laing Building, Windsor, Ontario.
Metropolitan Life Insurance Company	180 Wellington Street, Ottawa 4, Ontario.
The Ministers Life and Casualty Union	30 Bloor Street, W., Toronto, Ontario.
The Mutual Life Insurance Co. of Canada	227 King Street, S., Waterloo, Ontario.
The Mutual Life Insurance Co. of New York	2 Carlton Street, Toronto 2, Ontario.
Mutual of Omaha Insurance Company	500 University Avenue, Toronto, Ontario.
New England Mutual Life Insurance Company	501 Boylston Street, Boston, Mass., U.S.A.
New York Life Insurance Company	443 University Ave., Toronto 2, Ontario.
North American Life Assurance Company	112 King Street, West, Toronto, Ontario.
Pacific Mutual Life Insurance Company	111 Richmond West, Toronto, Ontario.
The Prudential Insurance Co. of America	King and Yonge Streets, Toronto 1, Ontario.
Royal-Globe Insurance Cos.	500 Place d'Armes, Montreal, P.Q.
Sun Life Assurance Co. of Canada	1155 Metcalfe Street, Montreal, P.Q.
Union Mutual Life Insurance Company	Room 412, 1440 Ste. Catherine St. W., Montreal, P.Q.
Fraternal and Co-operative	
The Associated Canadian Travellers	818 – 16th Avenue, N.W., Calgary, Alberta.
Bruce Co-operative Medical Services	Mr. Lorne B. Evans, Paisley, Ontario.
C.N.R. Employees Medical Aid Society of Saskatchewan	207 Ross Block, Saskatoon, Saskatchewan.
Christian Reformed Church, Co-operative Medical & Hospital Society	582 Upper Wellington Street, Hamilton, Ontario.
Commercial Travellers Mutual Accident Association	299 Waverley Street, Ottawa, Ontario.
Co-operative Farm Services, Limited	P.O. Box 872, Moncton, N.B.
Cunningham Western Sick Benefit Association	2780 East Broadway, Vancouver 12, B.C.
Elgin Medical Co-operative	43 St. Catherine Street, St. Thomas, Ontario.
Essex County Medical Co-operative	Mr. John Diemer, South Woodslee, Ontario.
Gatineau Co-operative Medical Services	Mr. M.K. Gibson, Rupert, Que.
Grey Co-operative Medical Services	Mr. Reg. Boyes, R.R. #1, Meaford, Ontario.

APPENDIX TABLE I – 1 (Concluded)

Name and Type of Carrier	Location of Canadian Head Office
Huron Co-operative Medical Services	70 Ontario Street, Clinton, Ontario.
Kawartha Co-operative Medical Services	326 Water Street, Peterborough, Ontario.
Lambton Co-operative Medical Services	Mr. J. Edwin O'Dell, Corunna, Ontario.
Leeds Co-operative Medical Services	Mr. Connor Pyke, Georgina Street, Brockville, Ontario.
Middlesex Co-operative Medical Services	505 Talbot Street, London, Ontario.
Slovene National Benefit Society	278 Bathurst Street, Toronto 2B, Ontario.
Stor-Dun-Glen Co-operative Medical Services	35 Lefebvre Avenue, Cornwall, Ontario.
Waterloo Co-operative Medical Services	208 Ottawa Street, S., Kitchener, Ontario.
Welland County Co-operative Medical Services	1419 Montrose Street, Niagara Falls, Ontario.
Woodward's Sick Benefit Society	101 West Hastings Street, Vancouver 3, B.C.
York Co-operative Medical Services	Mr. Paul Snider, R.R. #2, Maple, Ontario.
Prepayment Plans	
Associated Medical Services	615 Yonge Street, Toronto 5, Ontario.
B.C. Government Employees Medical Services	Parliament Buildings, Victoria, B.C.
Manitoba Medical Service	599 Empress Street, Winnipeg 10, Manitoba.
Maritime Hospital Service Association	P.O. Drawer 220, Moncton, N.B.
Maritime Medical Care Incorporated	5675 Spring Garden Road, Halifax, N.S.
Medical Services Association	2025 West Broadway, Vancouver 9, B.C.
Medical Services Incorporated	2045 West Broadway, Vancouver 9, B.C.
Medical Services (Alberta) Inc.	10169 – 104th Street, Edmonton, Alta.
Physicians' Services Incorporated	2221 Yonge Street, Toronto 7, Ontario.
Provincial Teachers' Medical Services	1815 West 7th Avenue, Vancouver 9, B.C.
Quebec Hospital Service Association	1200 St. Alexandre Street, Montreal 2, Quebec.
The Rossland-Trail Sick Benefit Association	1410 Bay Avenue, Trail, B.C.
Vancouver School Teachers' Medical Services Association	1815 West 7th Avenue, Vancouver 9, B.C.
Windsor Medical Services, Inc.	1427 Ouellette Avenue, Windsor, Ontario.

APPENDIX TABLE I – 2

CARRIERS INDICATING QUESTIONNAIRE INAPPLICABLE,
BY LOCATION OF CANADIAN HEAD OFFICE, 1962[1]

Name of Carrier	Location of Canadian Head Office
Aeterna Life Mutual Assurance Co.[2]	117 St. Catherine St., W., Montreal, Que.
Aetna Insurance Co.[2]	44 Victoria Street, Toronto, Ontario.
Agricultural Insurance Company[2]	10 Wellington Street, E., Toronto, Ontario.
Alliance Assurance Co., Ltd.[2]	276 St. James Street, W., Montreal, Que.
Alpina Insurance Company, Limited[2]	55 Burrard Street, Vancouver, B.C.
America Fire Insurance Group[7]	3600 Van Horne Avenue, Montreal, Que.
American Mutual Life Insurance Co.[2]	P.O. Box 365, Brandon, Man.
Ancient Order of Foresters[2]	752A Yonge Street, Toronto 5, Ontario.
Aviation and General Insurance Co. Ltd.[3]	507 Place d'Armes, Montreal, Que.
L'Assurance vie du St. Laurent[2]	461 Des Voluntaires St., Trois Rivieres, Que.
Assurances U.C.C. compagnie mutuelle[2]	515 Viger Street, Montreal, Que.
Bankers Life Company[2]	372 Bay Street, Toronto 1, Ontario.
British Aviation Insurance Company, Ltd.[4]	477 Mount Pleasant Road, Toronto 7, Ontario.
British Northwestern Insurance Company[2]	217 Bay Street, Toronto 1, Ontario.
British Pacific Life Insurance Company[6]	1090 Granville Street, Vancouver, B.C.
Brotherhood of Railroad Trainmen[2]	Insurance Department, 308 National Building, 18 Rideau St., Ottawa 2, Ontario.
California-Western States Life Insurance Co.[3]	250 University Ave., Toronto 1, Ontario.
Canadian General Insurance Co.[2]	P.O. Box 4030, Terminal A, Toronto, Ontario.
The Canadian Indemnity Company[2]	333 Main Street, Winnipeg, Man.
The Canadian Order of Foresters[2]	84 Market Street, Brantford, Ontario.
Canadian Pacific Employees' Medical Association of B.C.[3]	C.P.R. Station, Vancouver 2, B.C.
Canadian Slovak Benefit Society[2]	1551 Pelissier Street, Windsor, Ontario.
The Canadian Woodmen of the World[2]	371 Richmond Street, London, Ontario.
Century Insurance Company Limited[4]	1112 West Pender Street, Vancouver, B.C.

APPENDIX TABLE I – 2 (Continued)

Name of Carrier	Location of Canadian Head Office
Continental Assurance Company[3]	160 Bloor Street, E., Toronto 5, Ontario.
Co-operative Fire and Casualty Company[7]	301 Co-op. Block, Regina, Sask.
Co-operative Insurance Society Limited[2]	312 Grain Exchange, Winnipeg, Man.
Co-operative Life Insurance Company[2]	203 Co-op. Block, Regina, Sask.
Co-operative Medical Services Federation of Ontario[2]	2549 Weston Road, Weston, Ontario.
Credit Life Insurance Company[2]	199 Bay Street, Toronto, Ontario.
Dominion Insurance Corporation[2]	800 Bay Street, Toronto, Ontario.
Empire Life Insurance Company[2]	243 King Street, E., Kingston, Ontario.
Equitable Life Insurance Co. of Canada[2]	Waterloo, Ontario.
Federation Insurance Company of Canada[2]	275 St. James St. W., Montreal, Que.
Fireman's Insurance Company[2]	800 Bay Street, Toronto 1, Ontario.
General Accident, Fire and Life Assurance Corporation Limited[3]	357 Bay Street, Toronto, Ontario.
Glens Falls Insurance Company[2]	4 Richmond Street, E., Toronto, Ontario.
Grand Orange Lodge of British America[2]	10 Berti Street, Toronto 1, Ontario.
Great American Insurance Company[3]	44 Victoria Street, Toronto, Ontario.
Guardian-Caledonian Group[3]	240 St. James Street, W., Montreal 1, Quebec.
The Home Insurance Company[2]	111 Richmond Street, W., Toronto, Ontario.
Independence Life and Accident Insurance Co.[3]	372 Bay Street, Toronto 1, Ontario.
Independent Mutual Benefit Federation[2]	214 Beverley Street, Toronto, Ontario.
Independent Order of Foresters[2]	500 Jarvis Street, Toronto, Ontario.
La Médicale Compagnie d'Assurance sur la Vie[5]	100 Youville Square, Quebec, P.Q.
La Mutuelle des Employés Civils la Compagnie Mutuelle[2]	29 St. Ursule Street, Quebec, P.Q.
La Paix General Insurance Co. of Canada[2]	465 St. John Street, Montreal, Que.
La Société l'Assomption[2]	232 St. George Street, Moncton, N.B.
La Solidarité Compagnie d'Assurance sur la Vie[5]	925 St. Louis Road, Quebec, P.Q.
The Legal and General Assurance Society Ltd.[3]	129 Adelaide Street, W., Toronto, Ontario.

APPENDIX TABLE I – 2 (Continued)

Name of Carrier	Location of Canadian Head Office
Le Groupe Commerce Général[2]	2450 Girouard Blvd. St. Hyacinthe, Que.
The Lincoln National Life Insurance Co.[2]	220 Bay Street, Toronto, Ontario.
The London Assurance Group[2]	255 St. James St., W., Montreal, P.Q.
The London and Edinburgh Insurance Co.[2]	417 St. Peter Street, Montreal, P.Q.
The London and Midland General Ins. Co.[7]	612 Richmond Street, London, Ontario.
Lutheran Brotherhood[2]	500–389 Main Street, Winnipeg 2, Man.
The Maritime Life Assurance Company (Royal Guardians)[2]	373 Sherbrooke Street, W., Montreal, P.Q.
Massachusetts Mutual Life Insurance Co.[2]	220 Bay Street, Toronto, Ontario.
Wm. H. McGee & Co. of Canada[2]	48 Yonge Street, Toronto 1, Ontario.
Milwaukee Insurance Company of Milwaukee[2]	535 Homer Street, Vancouver, B.C.
The National Life Assurance Co. of Canada[3]	522 University Avenue, Toronto, Ontario.
The New Zealand Insurance Co., Ltd.[2]	129 Adelaide St., W., Toronto, Ontario.
The North American General Insurance Co.[2]	455 Craig Street, West, Montreal, Que.
Northern Assurance Group[2]	276 St. James Street, W., Montreal, Que.
Old Republic Insurance Co.[3]	181 Bay Street, Toronto, Ontario.
The Orion Insurance Co., Ltd.[2]	44 Victoria Street, Toronto, Ontario.
Pearl Assurance Co., Limited[2]	25 Adelaide Street, W., Toronto, Ontario.
The Phoenix of Hartford Insurance Co.[2]	485 McGill Street, Montreal, Que.
Pilot Insurance Co.[2]	1315 Yonge Street, Toronto, Ontario.
The Prudential Assurance Co., Ltd.[3]	465 St. John Street, Montreal, Que.
The Quebec Mutual Life Assurance Co.[2]	1200 St. Alexandre Street, Montreal 2, Que.
Reliable Life Insurance Society[2]	786 King Street, E., Hamilton, Ontario.
Reliance Insurance Company of Philadelphia[2]	80 Richmond Street, Toronto, Ontario.
Royal Clan, Order of Scottish Clans[2]	15 Sabine Road, Toronto 18, Ontario.

APPENDIX TABLE I – 2 (Concluded)

Name of Carrier	Location of Canadian Head Office
The Royal Exchange Assurance[2]	759 Victoria Square, Montreal, Que.
Royal Insurance Company[3]	500 Place d'Armes, Montreal 1, Que.
Scottish Insurance Corp., Ltd.[3]	Excelsior Life Building, Toronto, Ontario.
Scottish & York Insurance Company, Limited[2]	425 University Ave., Toronto 2B, Ont.
Serb National Federation[2]	181 Bay Street, Toronto 1, Ontario.
Sons of Norway[2]	528 West Pender Street, Vancouver, B.C.
Sons of Scotland Benevolent Assn.[2]	19 Richmond Street, West, Toronto, Ontario.
State Mutual Life Assurance Company of Canada[2]	250 University Avenue, Toronto 1, Ontario.
Teamsters Joint Council No. 36[2]	490 East Broadway, Vancouver 10, B.C.
Telephone Employees' Medical Services' Association of B.C.[3]	768 Seymour Street, Vancouver 2, B.C.
Union of Canada Life Assurance[3]	325 Dalhousie Street, Ottawa, Ontario.
Union of Commerce Life Assurance Co.[2]	822 Sherbrooke Street, E., Montreal, Que.
Union Insurance Society of Canton, Ltd.[6]	34 Adelaide Street, W., Toronto, Ontario.
United Province's Insurance Co.[2]	276 St. James Street, W., Montreal, Que.
United Security Insurance Company[2]	P.O. Box 1024, Halifax, N.S.
United States Fidelity and Guaranty Co.[3]	34 King Street W., Toronto, Ontario.
Washington National Insurance Co.[3]	111 Richmond Street, W., Toronto, Ontario.
The Westchester Fire Insurance Co.[2]	759 Victoria Square, Montreal, Que.
The Western Assurance Company[2]	40 Scott Street, Toronto 1, Ontario.

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[1] Includes 93 carriers.

[2] Relevant contracts not issued.

[3] Volume of business too small.

[4] Data not available from company records.

[5] French questionnaire not received.

[6] Questionnaire returned too late for tabulation.

[7] No reason given.

APPENDIX TABLE I – 3

CARRIERS NOT RESPONDING TO QUESTIONNAIRE,
BY LOCATION OF CANADIAN HEAD OFFICE, 1962[1]

Name of Carrier	Location of Canadian Head Office
Albion Insurance Co. of Canada	630 Sherbrooke St. W., Montreal, P.Q.
Association Canada-Américaine	3454 Messier Street, Montreal 24, Que.
Beneficial Standard Life Insurance Co.	1090 Granville Street, Vancouver, B.C.
Benefit Association of Railway Employees	P.O. Box 553, Kenora, Ont.
Brant Medical Co-operative	23 King Street, E., Burford, Ontario.
Caisse Nationale d'Economie	41 St. James St. W., Montreal 1, Que.
The Canadian National Insurance Co.	1600 Girouard St., St. Hyacinthe, Que.
The Canadian Provident	955 St. Louis Rd., Quebec, Que.
Capital Co-operative Limited	P.O. Box 145, Barker Street, Fredericton, N.B.
Carleton Co-operative Medical Services	R.R. #2, Dunrobin, Ontario.
Commercial Union – North British Group	388 St. James Street, W., Montreal, Que.
Commercial Union Group	388 St. James Street, W., Montreal, Que.
Co-operative Employees' Benefit Ass'n.	Esplanade, Sydney, N.S.
Creston Valley Sick Benefit Ass'n.	P.O. Box 1171, Creston, B.C.
Croatian Fraternal Union of America	181 Bay Street, Toronto 1, Ontario.
Dufferon Co-op Medical Services	Shelburne, Ontario.
Durham Co-operative Medical Services	Mr. Harry L. Wade, R.R. #3, Newcastle, Ontario.
Economical Mutual Group	Kitchener, Ontario.
Economical Mutual Insurance Co.	Kitchener, Ontario.
Employers Mutual Liability Insurance	430 Whitney Avenue, Hamilton, Ontario.
Equitable Group	276 St. James Street, W., Montreal, Que.
Farbrand-labour Zionist Order	1117 St. Catherine St. W., Montreal, Que.
Fireman's Fund Insurance Company	321 Bloor Street E., Toronto 5, Ontario.
Fraser Valley Medical Service Society	316 Sixth Street, New Westminster, B.C.

[1] Includes 75 carriers.

APPENDIX TABLE I – 3 (Continued)

Name of Carrier	Location of Canadian Head Office
Great Eastern Insurance Company	630 Sherbrooke Street, W., Montreal, Que.
Haldimand Co-operative Medical Services	Mrs. George Ridley, R.R. #3, Caledonia, Ont.
Halton Co-operative Medical Services	Mrs. Roy Coulter, R.R. #3, Campbellville, Ontario.
Hants Co-operative Services Limited	Newport, Hants County, N.S.
Hartford Group	44 Victoria Street, Toronto 1, Ontario.
Hundson Mining Employees' Health Ass'n.	P.O. Box 160, Flin Flon, Man.
Income Insurance Company of Canada	Hamilton, Ont.
Independent Order of Odd Fellows	Manchester Unity, Edmonton, Alta.
Iroquois General Insce. Co.	1440 Towers Street, Montreal, P.Q.
Kent Co-operative Medical Services	Mr. W.G. McCoig, 27½ Market Square E., Chatham, Ontario.
Lanark Co-operative Medical Services	Mrs. J. Victor Kellough, R.R. #4, Almonte, Ontario.
La Société des Artisans	333 Craig Street, E., Montreal, Que.
L'Assurance-Vie Desjardins	Lévis, P.Q.
La Survivance Compagnie Mutuelle d'Assurance Vie	1555 Girouard Street, St. Hyacinthe, Que.
Laurentian Life Assurance Company	480 Grande Allée St. E., Quebec, Que.
Legal & General Group	60 Yonge Street, Toronto 1, Ont.
Lincoln Co-op Medical Services	Mrs. G.H. Railton, R.R. #1, Smithville, Ontario.
Locomotive Engineer's Mutual Life	604 Metcalfe Bldg., 88 Metcalfe Street, Ottawa, Ontario.
Maryland Casualty Company	451 St. John St., Montreal, Que.
Medical Services Incorporated, ((M.S.I.) Sask.)	516 Second Avenue, N., Saskatoon, Sask.
The Montreal Fireman's Health Co-op	6623 – 23rd Avenue, Montreal 36, Que.
National Fraternal Order of Foresters	529 Spadina Rd., Toronto, Ontario.
Nationwide Mutual Insurance Company	301 Co-op Block, Regina, Sask.
Newfoundland Marine Insurance Co. Ltd.	Board of Trade Building, Water Street, St. John's, Newfoundland.

APPENDIX TABLE I – 3 (Concluded)

Name of Carrier	Location of Canadian Head Office
Norfolk Co-operative Medical Service	60 Main Street, North, Waterford, Ontario.
Northwestern Mutual Insurance Company	999 West Pender Street, Vancouver, B.C.
Ontario (County) Co-operative Medical Services	Mrs. I.L. McLean, R.R. #1, Locust Hill, Ontario.
Ontario Secondary School Teachers' Federated Hospital Fund	1260 Bay Street, Room 230, Toronto 5, Ontario.
The Order of Italo-Canadians	5925 Pie IX Blvd., Montreal, Que.
Oxford Co-operative Medical Services	527 Dundas Street, Woodstock, Ontario.
Peel Co-operative Medical Services	Mr. Charles Barrett, Caledon, Ontario.
Peerless Insurance Company	185 Bloor Street, E., Toronto 5, Ontario.
Perth Co-operative Medical Services	Poole, Ontario.
Pontiac Co-operative Medical Services	Mrs. Gilbert Telford, P.O. Box 274, Shawville, Que.
Pontiac (County) Co-operative Medical Services	P.O. Box 274, Shawville, Que.
Quinte Co-operative Medical Services	247 Coleman Street, Belleville, Ontario.
Saskatoon Medical Co-operative	Saskatoon, Sask.
Scotsburn Co-operative Creamery Ltd.	Scotsburn, N.S.
Shaw-Begg Group	14 Toronto Street, Toronto 1, Ontario.
Simcoe Co-operative Medical Services	39½ Mary Street, Barrie, Ontario.
Transportation Insurance Company	160 Bloor Street, E., Toronto 5, Ontario.
Ukrainian Fraternal Society of Canada	582 Burrows Avenue, Winnipeg 4, Man.
Ukrainian Mutual Benefit Ass'n of St. Nicholas of Canada	804 Selkirk Avenue, Winnipeg 4, Man.
United Benefit Life Insurance Company	500 University Avenue, Toronto 2, Ontario.
United States Fire Insurance Company	451 St. John Street, Montreal, P.Q.
Wawanesa Mutual Life Insurance Company	Wawanesa, Man.
Wellington Co-operative Medical Services	P.O. Box 209, Drayton, Ontario.
Wentworth Co-operative Medical Services	915 Barton Street, E., Hamilton, Ontario.
Workers Benevolent Association of Canada	595 Pritchard Avenue, Winnipeg 4, Man.
The Workmens' Circle	150 Craig Street, W., Montreal, Que.
Yorkshire Group	210 St. James Street W., Montreal, Que.

ROYAL COMMISSION ON HEALTH SERVICES

Questionnaire on Voluntary Health Insurance and Prepayment

This questionnaire is divided into five sections as follows:

Section I – *Background Information*

Section II – *Types of Coverage Issued* – This section requests information regarding the benefits provided and number of persons covered by five broad classes of individual and group contract.

Section III – *Group Underwriting*

and

Section IV – *Individual Underwriting* – Questions are included which relate both to general underwriting requirements and to the range of benefits normally written.

Section V – *Premiums and Costs* – This short section concerns 1961 claims incurred and premiums received for individual and group business as reported annually to the Canadian Health Insurance Association.

Instructions

In general, instructions have been provided with each question throughout the body of the questionnaire. In some instances, however, these may be incomplete and the following instructions will provide additional clarification:

1. Rather than leave a question blank because exact information is not available, please provide an estimate if any reasonable basis for such an estimate exists.

2. All replies based on estimates, however, should be marked with asterisks (*).

3. Except in Section V, the questionnaire defines health insurance to include contracts with surgical, medical, hospital and/or major medical benefits BUT DOES NOT REFER TO:
   (i) LOSS OF TIME CONTRACTS (weekly or monthly indemnities)
   (ii) ACCIDENTAL DEATH AND DISMEMBERMENT CONTRACTS
   (iii) CONTRACTS PROVIDING BENEFITS ONLY IN THE EVENT OF CERTAIN ACCIDENTS OR DISEASES (e.g., automobile accidents, polio, travel accidents, etc.).

Health insurance is, therefore, defined to include only those contracts which provide surgical, medical, hospital and/or major medical benefits payable in the event of either accident or sickness. The only exception is that Section V does require some information with respect to loss of time contracts. Corresponding information regarding the number of persons covered will be obtained from the Canadian Conference on Health Care.

4. All figures are to be reported on a direct written basis so that REINSURANCE ACCEPTED FROM OTHER COMPANIES SHOULD BE EXCLUDED WHILE REINSURANCE CEDED TO OTHER COMPANIES SHOULD NOT BE DEDUCTED.

   This applies both to the reporting of coverage in Section II and to premiums and claims in Section V. An exception, however, is Section I, question 3, which asks for NET premiums earned from all lines of Canadian insurance.

5. Major medical expense contracts are policies which provide payments to cover a wide range of hospital, medical and related expense which are characterized by a high overall maximum on the amount payable and a deductible amount which is not covered. If the policy is designed to be added to more basic coverage it should be reported as "supplementary type major medical".

6. In Section III the following definitions apply:

   Employer-Employee Groups – Groups whose membership is defined by employment – employees of a particular firm or establishment.

   Union Groups – Groups where eligibility is defined by membership in a particular trade or craft union.

   Professional or Trade Associations – An association of professional persons (e.g., Canadian Dental Association), or of independently employed urban persons (e.g., Automobile Dealers of Canada).

   Agricultural Organizations – Voluntary associations of farmers.

   Fraternal, Religious or Ethnic Groups – Groups where eligibility is contingent upon membership in a fraternal, religious or ethnic organization.

   Associations of Retired Persons – Groups where eligibility is defined by retirement *and* some earlier professional or employment status.

   Associations of Physically Handicapped Persons – Groups whose membership is composed of persons with similar physical handicaps.

   Municipal or Community Groups – Groups where eligibility is defined by location of residence (e.g., residents of East Storytown, Ontario). This category does not include municipal organizations such as civic and welfare councils.

7. In Section V, the following definitions should be observed:

   Accident and Sickness Insurance – Includes only those accident and sickness policies which provide for the payment of weekly or monthly indemnities to the insured on a basis *NOT* limited to specified accidents or diseases. Policies covering only accidents should be excluded.

   Surgical Expense Insurance – Includes all policies providing accident *and* sickness insurance against the expense of surgical operations whether on the basis of blanket coverage or an itemized fee schedule.

   Medical Expense Insurance – Is defined as insurance against the cost of doctor's visits whether limited to a specified amount per call for a stated number of calls or subject to an aggregate or blanket limit.

   Hospital Expense Insurance – Includes insurance against hospital expenses over and above those paid by the provincial hospitalization plans.

   Major Medical Expense – Is here defined to include both the comprehensive and supplementary major medical contracts referred to above.

8. Return the completed white copy of this questionnaire in the enclosed envelope addressed to:

   The Secretary,
   Royal Commission on Health Services,
   P.O. Box 1173, Postal Station B,
   Ottawa 4, Ontario.

Section I: Background Information

1. Please identify your organization:

   (a) Name of organization _____

   (b) Head Office address _____

   (c) Address of principal Canadian office if different from above _____

   _____

2. Please check in the first column those lines of business which account for 25% or more of your organization's total annual premium income (Consider Canadian business only). Check in the second column all other lines sold in Canada.

	25% or more	*Less than 25%*
Life Insurance	☐	☐
Health Insurance	☐	☐
Other Insurance	☐	☐

3. What was your organization's total of net premiums earned from Canadian business during 1961 $_____.

4. Please check the appropriate classification for your organization.

   ☐ Stock Company

   ☐ Mutual Company

   ☐ Prepaid Medical Plan

   ☐ Fraternal or Cooperative Society

   ☐ Other (Specify) _____

Section II: Types of Coverage Issued

Part A — Group Business in Force as of December 31, 1961

1. Please show, as accurately as possible, the approximate number of persons covered, as of December 31, 1961,[1] by the classes of group contract indicated below. In determining whether a contract fits a particular category, do not consider benefits other than those contained by the table. For example, a contract which combines an accident and sickness policy, providing weekly indemnities, with a surgical expense insurance contract, should be counted under "Surgical procedures only". Similarly, a contract combining medical expense insurance and hospital expense insurance should be counted under "Medical care only". DO NOT DOUBLE COUNT ANY CONTRACT. A policy combining medical expense insurance and surgical insurance should NOT be counted under "Surgical procedures only" or under "Medical care only" but should ONLY be counted under "Surgical procedures and in-hospital medical care" *OR* "Surgical procedures and medical care in hospital, clinic, home and office" depending upon whether or not the medical insurance is restricted to medical care in hospital. Major medical contracts should, therefore, be counted ONLY under the appropriate major medical heading.

Group Contracts with benefits for:	Not Issued	Group Membership		
		Number of Groups	Number of Individuals covered excluding dependants	Number of Dependants covered
Surgical procedures only				
Medical care only (no surgery)				
Surgical procedures and in-hospital medical care				
Surgical procedures and Medical care in hospital clinic, home and office				
Major medical expense — comprehensive or basic type				
Major Medical Expense supplementary type — designed to supplement the coverage of another contract or plan				
TOTAL: All group contracts				

[1] If the number of persons covered on December 31st, 1961, is unknown, please show the number of persons covered on the date closest to December 31, 1961, for which this information is available and indicate that date here. (Month_____, day_____, year_____).

When a major medical contract is issued in conjunction with a surgical expense contract (or other category listed) the two contracts should be treated as two separate contracts and entered accordingly. This will generally be the case with supplementary type major medical contracts.

Single contracts which combine some first dollar coverage with supplementary major medical protection should be counted *only* under "Major medical expense – basic or comprehensive type".

2. Please show below whether your organization issues these classes of contract alone or requires that they be issued only in conjunction with other coverage.

Group Contracts with Benefits for:	Not Issued	Issued Alone	Issued Only in Conjunction with Other Coverage (please specify other coverage required)
Surgical procedures only			
Medical care only (no surgery)			
Surgical procedures and in-hospital medical care			
Surgical procedures and medical care in hospital, clinic, home and office			
Major medical expense – comprehensive or basic type			
Major medical expense – supplementary type – designed to supplement the coverage of another contract or plan			

Part B – Individual Business in Force as of December 31, 1961

1. Please show, as accurately as possible, the approximate number of persons covered, as of December 31, 1961,[1] by the classes of individual contract indicated below. For the purposes of this table, an individual contract is a policy issued to one person or to one person and dependants regardless of whether this coverage was sold directly or converted from group coverage. In determining whether a contract fits a particular category, do not consider

[1] If the number of persons covered on December 31st, 1961, is unknown, please show the number of persons covered on the date closest to December 31, 1961, for which this information is available, and indicate that date here. (Month , day , year).

benefits other than those contained by the table. For example, a contract which combines an accident and sickness policy, providing weekly indemnities, with a surgical expense insurance contract, should be counted under "Surgical procedures only". Similarly, a contract combining medical expense insurance and hospital expense insurance should be counted under "Medical care only". DO NOT DOUBLE COUNT ANY CONTRACT. A policy combining medical expense insurance and surgical expense insurance should NOT be counted under "Surgical procedures only" or under "Medical care only" but should ONLY be counted under "Surgical procedures and in-hospital medical care" *OR* "Surgical procedures and medical care in-hospital, clinic, home and office" depending upon whether or not the medical insurance is restricted to medical care in hospital. Major medical contracts should, therefore, be counted ONLY under the appropriate major medical heading.

When a major medical contract is issued in conjunction with a surgical expense contract (or other category listed) the two contracts should be treated as two separate contracts and entered accordingly. This will generally be the case with supplementary type major medical contracts.

Single contracts which combine some first dollar coverage with supplementary major medical protection should be counted *only* under "Major medical expense – basic or comprehensive type".

Individual Contracts with Benefits for:	Not Issued	Number of Individuals Covered Excluding Dependants	Number of Dependants Covered
Surgical procedures only			
Medical care only (no surgery)			
Surgical procedures and in-hospital medical care			
Surgical procedures and medical care in hospital, clinic, home and office			
Major medical expense — comprehensive or basic type			
Major medical expense — supplementary type— designed to supplement the coverage of another contract or plan			
TOTAL: All individual contracts			

2. Please show below whether your organization issues these classes of contract alone or requires that they be issued only in conjunction with other coverage.

Individual contracts with benefits for:	Not Issued	Issued Alone	Issued only in Conjunction with other Coverage (please specify other coverage required)
Surgical procedures only			
Medical care only (no surgery)			
Surgical procedures and in-hospital medical care			
Surgical procedures and medical care in hospital clinic, home and office			
Major medical expense—comprehensive or basic type			
Major medical expense—supplementary type—designed to supplement the coverage of another contract or plan			

3. Of the persons reported as covered by individual contracts in question 1., approximately what percentage obtained coverage by group conversion?

Individual contracts with benefits for:	Percent of persons covered through group conversion
Surgical procedures only	
Medical care only (no surgery)	
Surgical procedures and in-hospital medical care	
Surgical procedures and medical care in hospital, clinic, home and office	
Major medical expense—comprehensive or basic type	
Major medical expense—supplementary type—designed to supplement the coverage of another contract or plan	

Section III: Group Underwriting – Surgical and Medical Insurance

Please complete this section if your organization issues group health care coverage with surgical and/or medical benefits. If group contracts with surgical or medical benefits are not written, please leave this section blank and go on to Section IV.

The following questions refer to group health care contracts OTHER THAN LOSS OF TIME CONTRACTS. In answering these questions, do not, therefore, consider weekly or monthly indemnity benefits as health care benefits. Answer the questions on the basis of benefits normally provided by regular surgical, medical, hospital or major medical insurance. A superimposed-type major medical contract designed to supplement more basic coverage does, however, provide health care benefits within the context of these questions.

1. Please check the types of groups eligible for all, for some, or for none of the group health coverage issued by your organization. Assume that minimum size and participation requirements are satisfied.

Group is Eligible for:			
Type of Group	*All Coverage*	*Some Coverage*	*No Coverage*
Employer-Employee Groups	☐	☐	☐
Union Groups	☐	☐	☐
Professional or Trade Associations	☐	☐	☐
Agricultural Organizations	☐	☐	☐
Fraternal, Religious or Ethnic Groups	☐	☐	☐
Associations of Retired Persons	☐	☐	☐
Associations of Physically Handicapped Persons	☐	☐	☐
Municipal or Community Groups	☐	☐	☐

2. Please enter below, for each type of group accepted, the minimum group size and participation requirements of your underwriting department.

Type of Group	*Minimum Size of Group*	*Participation Required for Minimum Group Size*
Employer-Employee Groups	_____	_____ %
Union Groups	_____	_____ %
Professional or Trade Associations	_____	_____ %
Agricultural Organizations	_____	_____ %
Fraternal, Religious or Ethnic Groups	_____	_____ %
Associations of Retired Persons	_____	_____ %
Associations of Physically Handicapped Persons	_____	_____ %
Municipal or Community Groups	_____	_____ %

3. What participation percentages are generally required for the various sizes of groups acceptable to your organization? (List groups from smallest to largest).

Group Size Range	*Minimum Participation*
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %
_____	_____ %

Do these participation requirements apply to:

all groups	Yes ☐	No ☐
a majority of groups	Yes ☐	No ☐
only a few groups	Yes ☐	No ☐

4. What action does your organization take if, in spite of attempts to correct it, a group remains below its minimum size or participation requirement?

☐ Coverage cancelled at renewal period

☐ Coverage cancelled after _____ months if group continues to fail to satisfy requirements

☐ Other action (specify) _____

_____

_____

_____

5. Please show the age limits for membership by type of group.

Type of Group	*Age Limit of Initial Membership*	*Age Beyond Which Continued Membership is Not Permitted*
Employer-Employee Groups	_____	_____
Union Groups	_____	_____
Professional or Trade Associations	_____	_____
Agricultural Organizations	_____	_____
Fraternal, Religious or Ethnic Groups	_____	_____
Associations of Retired Persons	_____	_____
Associations of Physically Handicapped Persons	_____	_____
Municipal or Community Groups	_____	_____

6. Does your organization issue group health contracts which provide for the coverage of members' dependants?

Yes ☐ No ☐

If Yes, are the following dependants eligible?	Yes	No
Natural children at birth	☐	☐
Natural children after____days	☐	☐
Natural children after initial hospital discharge	☐	☐
Adopted children	☐	☐
Wards	☐	☐
Spouse	☐	☐
Spouse if divorced	☐	☐
Spouse if separated	☐	☐
Is any other class of dependant eligible	☐	☐

If Yes, specify _____

7. For what period of time are your group health contracts issued?

Usual period _____ months.

Maximum period _____ months.

8. Please estimate the percentage, over the past five years, of your organization's group business (in terms of annual premium) which was cancelled or not renewed at the option of your organization. (Do not count group business dropped by the group following a premium increase. Include only that business which your organization declined to renew even at an increased premium).

_____ %

Please list the major reasons for this cancellation or refusal to renew (participation requirements, group size, etc.).

_____

_____

9. Does your organization experience-rate:

	Yes	*No*
All groups	☐	☐
Most groups	☐	☐
All large groups	☐	☐
Some groups	☐	☐
No groups	☐	☐

All groups with more than_____members

10. Does your organization issue group health contracts which provide continued protection on group basis for individuals retiring from active participation in the group?

Yes ☐ No ☐

If Yes: (a) Is this provision available to all groups? Yes ☐ No ☐

If No: What requirements must be met if the group is to qualify?

_____

_____

(b) Is this provision available for all health coverages?

Yes ☐ No ☐

If No: For what types of coverage is it available?

_____

(c) Where this provision is effective, is the coverage the same as for the active group? Yes ☐ No ☐

If No: What limitations are imposed on the non-active group?

_____

_____

11. Does your organization automatically offer *ALL* group members conversion privileges to corresponding individual coverage without a medical examination, health statement or other proof of insurability:

(a) when the contract providing group coverage has been terminated?

Yes ☐ No ☐

(b) when the individual member leaves the group?

Yes ☐ No ☐

12. Does your organization issue group contracts which guarantee an individual leaving the group the right to convert his coverage to an individual basis without proof of insurability and regardless of age?

Yes ☐ No ☐

If Yes: (a) Is this provision available to all groups?

Yes ☐ No ☐

If No: What requirements must be met if the group is to qualify?

_____

_____

(b) Is this provision available for all health coverages?

Yes ☐ No ☐

If No: For what types of coverage is it available?

_____

_____

13. Does your organization have in force group health care contracts which provide first dollar coverage according to a specified schedule of benefits?

Yes ☐ No ☐

If yes: please complete the following table to show the maximum amount payable according to the indicated schedule of benefits. If the procedure is not covered by the schedule, enter "N.C." in place of a dollar amount. This question should be answered on the basis of three schedules only; the highest schedule, the lowest schedule, and the schedule most widely in force at the present time.

Procedure	Maximum Surgical Benefit According to: (include anaesthetist's and/or assistant's fee if applicable)		
	Schedule of Benefits Most Widely in Force	Highest Schedule of Benefits Now in Force	Lowest Schedule of Benefits Now in Force
	$	$	$
Caesarean Section			
Dilatation Curettage			
Open Reduction of Fractured Femur			
Tonsillectomy with Adenoidectomy			
Total Hysterectomy			
Repair of Single Inguinal Hernia			
Appendectomy			
Hemorrhoidectomy			
Normal Confinement and Delivery without complications (include any benefit for pre-natal and post-natal care)			

14. Do the group contracts issued by your organization allow a certificate holder to assign a benefit to a physician or clinic?

Yes ☐ No ☐

If yes, estimate the percentage of group claims in which payment is assigned to a physician or clinic. _____%

15. Does your organization issue a major medical expense contract?

Yes ☐ No ☐

If yes, (a) what is the minimum deductible issued? $_____

(b) what is the largest maximum benefit issued? $_____

(c) what is the minimum co-insurance factor* available? _____%

(d) what is the deductible most often issued? $_____

(e) what is the co-insurance factor* most often issued? _____%

(f) what is the maximum benefit most often issued? $_____

(g) over what period of time is the maximum benefit generally applicable? _____

(h) can the maximum benefit be re-established after it has been partially or entirely used up?

Yes ☐ No ☐

If yes, please briefly describe the conditions which must be met if the benefit is to be re-established.

_____

_____

Section IV: Individual Underwriting – Surgical and Medical Insurance

Please complete this section if your organization issues individual health care coverage (health care contracts issued to one person or to one person and dependants). If your organization does not issue individual health care coverage, or issues individual contracts only upon conversion of group coverage, leave this section blank and go on to Section V.

These questions refer to individual health care contracts OTHER THAN LOSS OF TIME CONTRACTS. In answering these questions do not, therefore, consider weekly or monthly indemnity benefits as health care benefits. Disregard accidental death and dismemberment policies. Answer the questions on the basis of surgical, medical, hospital or major medical expense insurance. A superimposed-

* The co-insurance factor is defined as the percentage of allowed expense above the deductible amount which is payable by the insured. If the insured is liable for 20% of all allowed expense above a $25.00 deductible, than the co-insurance factor is 20%.

type major medical contract designed to supplement more basic coverage does, however, provide health care benefits within the context of these questions.

1. Please enter the age requirements for the principal insured (policy owner) which must be met before your organization will issue individual contracts. Please show these limits for both initial and renewal issue. Please show these limits for each type of individual coverage issued, and if possible attach a copy of the corresponding contract.

	Initial Issue		*Renewal Issue*
	Age of Principal Insured		Maximum Age of Principal Insured
Type of Coverage	*Minimum*	*Maximum*	
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

2. Do certain hazardous activities or occupations preclude the issuance by your organization of some forms of individual health care coverage. (Note that this section of the questionnaire does *not* refer to loss of time contracts)

Yes ☐ No ☐

If Yes, please list the principal activities or occupations which are unacceptable.

Type of Coverage	*Unacceptable Occupations or Activities*
_____	_____
	_____
_____	_____
	_____
_____	_____

3. Does your organization require a medical examination for the issuance of individual health care coverage?

☐ No, a medical examination is never required.

☐ Yes, a medical examination is required in every instance.

☐ A medical examination is required only in the following instances.

_____

_____

4. Does your organization require a health statement for the issuance of individual health coverage?

☐ No, a health statement is never required.

☐ Yes, a health statement is required in every instance.

☐ Yes, a health statement is required for all coverage except when a medical examination is required as indicated in question 3.

☐ Yes, a health statement is required only in the following instances:

_____

_____

_____

5. Are pre-existing conditions excluded from benefits under individual coverage?

☐ Yes

☐ Sometimes

☐ Not after a waiting period requirement has been satisfied

☐ No

6. Does your organization issue health care contracts to individuals with physical impairments?

Yes ☐ No ☐

If yes: (a) Is the level of benefits of contracts issued to individuals with physical impairments the same as those of corresponding contracts issued to standard risks?

Yes ☐ No ☐ Sometimes ☐

(b) Is the premium charged individuals with physical impairments the same as that charged when corresponding coverage is issued to standard risks?

Yes ☐ No ☐ Sometimes ☐

7. Does your organization issue individual health care contracts in which benefits are provided for dependants?

Yes ☐ No ☐

If yes, are benefits for dependants available with: (check applicable category)

☐ all types of coverage

☐ the following types of coverage (please specify)

_____

_____

_____

Please indicate which of the following classes of dependants are eligible.

	Yes	No
Natural children at birth	☐	☐
Natural children over months of age	☐	☐
Natural children after initial hospital discharge	☐	☐
Adopted children	☐	☐
Wards	☐	☐
Spouse	☐	☐
Spouse if divorced	☐	☐
Spouse if separated	☐	☐

Parents of policy-holder ☐ ☐

Other (specify) _____ ☐ ☐

Are there age limits for the eligibility of dependants?

Yes ☐ No ☐

*If yes, please show these limits below.

		Initial Issue	*Renewal Issue*
For minors:	Maximum age	_____	_____
	Minimum age	_____	
For adults:	Maximum age	_____	_____

8. Please indicate below whether your organization's rates for single individual health coverage vary with the factors listed.

Factor	*Major Medical*		*Other Coverage*	
	Yes	No	Yes	No
Age	☐	☐	☐	☐
Sex	☐	☐	☐	☐
Occupation	☐	☐	☐	☐
Geographic location	☐	☐	☐	☐
Income level	☐	☐	☐	☐
Marital status	☐	☐	☐	☐

9. Please indicate below whether the rates for non-group family contracts vary with the factors listed.

Factor	*Major Medical*		*Other Coverage*	
	Yes	No	Yes	No
Age of household head	☐	☐	☐	☐
Occupation of household head	☐	☐	☐	☐
Geographic location	☐	☐	☐	☐
Income level	☐	☐	☐	☐
Number of dependants covered	☐	☐	☐	☐

10. Do the individual contracts issued by your organization permit the contract holder to assign a benefit to a physician or clinic?

Yes ☐ No ☐

If yes: Please estimate the percentage of individual claims in which the benefit is assigned to a physician or clinic_____%.

11. Does your organization have in force any individual (one person or one person and dependants) health care contracts which provide first dollar coverage according to a specified schedule of benefits?

Yes ☐ No ☐

If yes: please complete the following table to show the maximum amount payable according to the indicated schedule of benefits. If the procedure is not covered by the schedule, enter "N.O." in place of a dollar amount. This question should be answered on the basis of three schedules only: the highest schedule, the lowest schedule, and the schedule most widely in force at the present time.

Procedure	Maximum Surgical Benefit According to: (include anaesthetist's and/or assistant's fee if applicable)		
	Schedule of Benefits Most Widely in Force	Highest Schedule of Benefits Now in Force	Lowest Schedule of Benefits Now in Force
	$	$	$
Caesarean Section			
Dilatation Curettage			
Open Reduction of Fractured Femur			
Tonsillectomy with Adenoidectomy			
Total Hysterectomy			
Repair of Single Inguinal Hernia			
Appendectomy			
Hemorrhoidectomy			
Normal Confinement and Delivery without complications (include any benefit for pre-natal and post-natal care)			

12. Does your organization issue a comprehensive major medical contract on an individual basis (to one person or to one person and dependants)?

Yes ☐ No ☐

If Yes, please show below the minimum deductible, the maximum benefit and the minimum co-insurance factor currently available.

Minimum Deductible $_____

Maximum Benefit $_____

Minimum Co-insurance Factor* _____%

* The co-insurance factor is defined as the percentage of allowed expense above the deductible amount which is payable by the insured. If the insured is liable for 20% of all allowed expense above a $25.00 deductible, then the co-insurance factor is 20%.

Please also show the deductible amount, maximum benefit, and co-insurance factor specified by the comprehensive major medical contract most often issued.

Deductible Amount $_____

Maximum Benefit $_____

Co-insurance Factor* _____%

Over what period is the maximum benefit applicable? _____ Can it be re-established?

Yes ☐ No ☐

If Yes, please specify the conditions under which the maximum benefit can be re-established.

_____

_____

_____

13. Does your organization issue a supplementary-type major medical contract on an individual basis (to one person or to one person and dependants)?

Yes ☐ No ☐

If Yes, please show below the deductible amount, the maximum benefits, and the co-insurance factor specified by the contract most widely sold.

Deductible amount $_____

Maximum benefit $_____

Co-insurance Factor* _____%

* The co-insurance factor is defined as the percentage of allowed expense above the deductible amount which is payable by the insured. If the insured is liable for 20% of all allowed expense above a $25.00 deductible, then the co-insurance factor is 20%.

14. Does your organization issue any non-cancellable *and* guaranteed renewable individual health care coverage?

Yes ☐ No ☐

If yes, please indicate the kinds of coverage issued on this basis

_____

_____

Are the benefit levels of this coverage the same as those of corresponding contracts written on an optionally renewable or cancellable basis?

Yes ☐ No ☐

Are the premium levels of this coverage guaranteed?

Yes ☐ No ☐

Is the term of this coverage the lifetime of the insured?

Yes ☐ No ☐

15. Please indicate, or if necessary estimate, the percentage of your organization's health care contracts which, over the past five years, have been cancelled or not renewed at the option of your organization.

_____%

Please complete the following table to show the principal reasons for these cancellations or refusals to renew.

Reason	*Percent of Contracts Terminated for Indicated Reason*
1. Age limit not specified in policy	_____ %
2. Unfavourable experience	_____ %
3. Impairment of insured	_____ %
4. Other (specify)_____	_____ %
5._____	_____ %
6._____	_____ %

16. In the event of unfavourable experience or impairment of the insured or covered dependants, does your organization ever request a waiver of some benefits associated with the impairment.

Yes ☐ No ☐

If yes, is this privilege always or generally available before a policy is cancelled or not renewed because of unfavourable experience.

☐ Yes, always available

☐ Yes, generally available

☐ No

17. In the event of unfavourable experience or impairment of the insured or covered dependants, does your organization ever offer to renew only at an increased premium?

Yes ☐ No ☐

If yes, is this privilege always or generally available before a policy is cancelled or not renewed because of unfavourable experience.

☐ Yes, always available

☐ Yes, generally available

☐ No

18. During the past five years, what percentage of your organization's individual policy owners were, because of unfavourable experience, asked to waive some benefit normally included by their policies? (Include in this percentage all policies not renewed at the option of the policy owner following a request for a waiver of some benefit, but do not include contracts for which a waiver was required for initial issue.)

_____%

19. What percentage of your organization's individual health care contracts have, during the past five years, been specially premium rated by your organization because of unfavourable experience or impairment of the insured or his dependants. (Include premium rated contracts which were declined by the policy owner).

_____%

Section V: Premiums and Costs

Part A: Please complete the following tables if your organization issues health care coverage on a group basis. If no group coverage is issued, check here ☐ and go on to *Part B* of this section.

If your records do not show the information requested, please provide estimates. It is essential, however, that the totals be accurately transcribed from your organization's records and that any estimates be made as carefully as possible. Please mark those figures, if any, which are estimates with asterisks.

TABLE I

PREMIUMS RECEIVED AND CLAIMS INCURRED DURING 1961, BY TYPE OF COVER, CANADIAN GROUP BUSINESS ONLY

Type of Cover	Premiums Received	Claims Incurred
Group Accident and Sickness — Weekly Indemnity	$	$
Group Hospital Expense		
Group Surgical Expense		
Group Medical Expense		
Group Comprehensive and Major Medical Expense		
Total — All Group Health Care Coverage[1]		

[1] This Total should include only the categories of health coverage listed in the table. See questionnaire instructions for definitions.

TABLE II

EARNED PREMIUMS IN 1961 – *GROUP* BUSINESS ONLY

Premium Detail		Amount
Total Premiums Received (from Table I above)[1]		$
less:	Premiums returned (include experience-rating refunds)	
	Dividends credited to policy-owners	
	Increases in unearned reserves and advance premium accounts	
	Increases in policy reserves	
	Increases in provisions for future dividends or experience refunds	
Earned Premiums from Group Business During 1961		

[1] This total should include only the categories of group health care coverage listed above in Table I.

Part B: Please complete the following tables if your organization issues health care coverage on an individual basis (contracts issued to one person or to one person and dependants). If individual coverage is not issued, check here ☐ and leave the remainder of this questionnaire blank.

TABLE I

PREMIUMS RECEIVED AND CLAIMS INCURRED DURING 1961 BY TYPE OF COVER: CANADIAN INDIVIDUAL BUSINESS ONLY

Type of Cover	Premiums Received	Claims Incurred
Individual Accident and Sickness Insurance– Weekly or Monthly Indemnity	$	$
Individual Hospital Expense		
Individual Surgical Expense		
Individual Medical Expense		
Individual Comprehensive and Major Medical Expense		
Total: All Individual Health Care Coverage[1]		

[1] This Total should include only the categories of health insurance listed in the table. See questionnaire for definitions.

If your records do not show the information requested, please provide estimates. It is essential, however, that the totals be accurately transcribed from your organization's records and that any estimates be made as carefully as possible. Please mark those figures, if any, which are estimates with asterisks.

TABLE II

EARNED PREMIUMS IN 1961 – *INDIVIDUAL* BUSINESS ONLY

Premium Detail		Amount
Total Premiums Received (from Table I above)[1]		$
less:	Premiums returned (include experience-rating refunds)	
	Dividends credited to policy-owners	
	Increases in unearned reserves and advance premium accounts	
	Increases in policy reserves	
	Increases in provisions for future dividends or experience refunds	
Earned Premiums from Individual Business During 1961		

[1] This total should include only the categories of individual health care coverage listed above in Table I.

APPENDIX II

HEALTH BENEFIT PLANS

IN CANADIAN WORKING ESTABLISHMENTS

This appendix reproduces that part of the questionnaire of the Department of Labour's 1962 Survey of Working Conditions that relates to health benefit plans in Canadian working establishments. Tabulations of this part of the questionnaire appear above in Chapter 2.

The questionnaire itself was mailed by the Department of Labour to more than 20,000 working establishments in May 1962. Eighty per cent of those establishments replied. Replies were tabulated for all responding establishments that reported 15 or more employees, or were branches of multi-establishment firms, or "fell under federal jurisdiction by reason of legislation administered by the Department of Labour".[1]

An establishment is defined as "an operating unit having an independent existence in the sense that it contains within itself all of the elements for the activities carried on. Thus the establishment is typically a factory, mine, store, or similar unit; while in most instances it is a separate firm, it should be noted that the term 'establishment' is not necessarily synonymous with 'firm' or 'company'".[2]

The questionnaire asked for information separately for office and non-office workers. Office employees are those engaged in clerical, accounting, secretarial, executive, and administrative duties. In some instances, notably retail trade and the transportation industries, a further breakdown was requested by means of a slightly modified questionnaire. For retail trade, the classification was for office, sales, and other employees, and in the case of the transportation industries, for office, operating, and other employees. Operating employees are the crews of transportation vehicles.

For additional detail, both in the tabulation of these questionnaires and in procedural matters, consult *Working Conditions in Canadian Industry*, Report Number 6, 1962.[3]

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[1] Department of Labour, Canada, Economics and Research Branch, *Working Conditions in Canadian Industry*, Report Number 6, 1962, Ottawa, Queen's Printer, p. 2.

[2] *Ibid.*, p. 3.

[3] *Ibid.*

HEALTH BENEFIT PLANS

(This question is concerned only with non-governmental insurance or pre-payment plans. **DO NOT** report benefits or employer contributions under federal-provincial hospital insurance plans or other government sponsored plans.)

1. Are the majority of your employees covered by a voluntary health insurance or pre-payment plan(s)? .....

	Sales Staff 49	Other non-office 50	Office 51
Yes 1	☐	☐	☐
No 2	☐	☐	☐

IF YES, ANSWER BELOW

2. In which one of the following categories does your plan fall?

		Check (X) Sales Staff 52	Other non-office 53	Office 54
Type A	**"Major Medical" *Provisions*** only ..... (Provides for payment of part or all of a broad range of medical, surgical and other health service expenses after payment of an initial deductible amount by the employee.)	1 ☐	☐	☐
Type B	***Specified Basic Benefits*** only ..... (Provides for payment of specified health service expenses without payment by the employee of an initial deductible amount. (i.e., there are no "Major Medical" provisions).)	2 ☐	☐	☐
Type C	***Combination*** of Types A and B ..... (Provides specified basic benefits plus "Major Medical" as a supplementary feature.)	3 ☐	☐	☐

3. Please check the features of your plan(s) in the appropriate boxes below:

If your plan is Type A – Check (X) under headings in column 1 only.
If your plan is Type B – Check (X) under headings in column 2 only.
If your plan is Type C – Check (X) under headings in both columns 1 and 2.

	1			2		
	TYPE A PLAN "Major Medical"			TYPE B PLAN "Specified Basic Benefits"		
	Sales staff	Other non-office	Office	Sales staff	Other non-office	Office
BENEFITS						
(a) Surgical and Obstetrical Benefits	55	63	71	33	41	49
(b) Medical Care (non-surgical)						
(i) Physicians care in hospital	56	64	72	34	42	50
(ii) Physicians home and office calls	57	65	73	35	43	51
(iii) Special duty nursing care in hospital	58	66	74	36	44	52
(c) Diagnostic X-ray and Laboratory Services, etc.	59	67	75	37	45	53
(d) Prescribed Drugs	60	68	76	38	46	54

DOES YOUR PLAN PROVIDE BENEFITS FOR:						
(a) Employee and dependants?	61-1	69-1	77-1	39-1	47-1	55-1
(b) Employee only?	61-2	69-2	77-2	39-2	47-2	55-2
HOW IS YOUR PLAN FINANCED:						
(a) By employer and employees jointly?	62-1	70-1	78-1	40-1	48-1	56-1
(b) By employer only?	62-2	70-2	78-2	40-2	48-2	56-2
(c) By employees only?	62-3	70-3	78-3	40-3	48-3	56-3

IF YOUR PLAN IS TYPE B OR TYPE C, ANSWER PART 4 BELOW:

4. Please check (X) in appropriate box whether your plan(s) (excluding "Major Medical Benefits" under Type C plan) is of the Service or Indemnity type.

		Check (X) Sales staff 57	Other non-office 58	Office 59
Service Plans involve contracts under which participating doctors (or their professional associations) agree to accept the fees or rates paid by the plans as full payment for most services rendered	Service Plan 1	☐	☐	☐
Indemnity Plans reimburse the individual member for medical and surgical expenses up to fixed maximum sums for each **type of service rendered.** These plans do not involve contracts with doctors to accept the amount paid by the plan as full payment for services rendered	Indemnity Plan 2	☐	☐	☐

Date .....

..... (Signature of official submitting this report)

For Departmental Use

..... (Official title)

APPENDIX III

FAMILY MEDICAL EXPENSE BY CLASS OF SERVICE

The following tables are provided for reference purposes and do not form a part of the central analysis of this study. Average expenses are shown, by age of household head, for eight "types" of family and for ten components of total medical expense. These averages are based on the 1961 experience of all families of the classes shown with Plan HCX coverage under Manitoba Medical Service for the full 12 months of 1961. Family "type" is defined by the membership records of Manitoba Medical Service in June, 1962.

Medical services are defined according to the "service code" records of M.M.S., and for the classes of medical service shown, are relatively straightforward. Well-baby care covers up to nine visits to a paediatrician or general practitioner during the infant's first 24 months. Total medical expense is the sum of the ten classes listed, and includes all eligible services under Plan HCX. The provisions of this plan are outlined in Chapter 5.

Entries are shown in the tables for all families where more than 100 of the particular age class were present in the M.M.S. membership. Where fewer than 100 families were present, averages are not shown because of the distortion which extreme experience on the part of one or two families could introduce in the class averages as a whole.

These tables indicate the contribution of each of these several classes of medical expense to the total expense for particular types of family, and also illustrate the variation in the relative importance of these classes among different types of family. Of particular interest will be the very large contribution of home and office calls for all family types, and the rather dramatic rise in the cost of some components with increasing age. This is especially true of hospital calls and radiology. Attention should also be drawn to the offsetting influences of maternity and age in the case of couples with children. Maternity expense is not small. Refractions, another component of expense which looms

surprisingly large in terms, say of the cost of laboratory services, do not include hardware (lenses and frames).

As indicated earlier, no serious analysis of these tables is here attempted. The tables will, however, be useful to those who wish to ponder the wisdom of various exclusions from prepayment or insurance packages. For the types of families shown, and on the assumption that adverse risk selection is not present in the M.M.S. membership, the averages shown are unbiased estimates of the expected cost of the ten classes of services indicated. Again, this detail is more complete than that which has previously been available from alternative sources.

TABLE III–1

AVERAGE COST, PER HOUSEHOLD, OF SPECIFIED CLASSES OF MEDICAL EXPENSE, SINGLE MALE PERSONS, BY AGE, 1961

Age	Office Calls	House Calls	Hospital Calls	Surgery	Maternity and Well-Baby Care	Consult-ations	Radiol-ogy	Refrac-tions	Labor-atory Services	Other Services	Total	Number of House-holds
15 – 19	6.57	0.94	0.60	5.40	0.	0.36	2.87	0.80	0.41	0.46	18.41	224
20 – 24	7.60	0.78	0.55	6.82	0.	0.33	3.12	1.03	0.84	0.90	21.97	3,327
25 – 34	8.95	0.68	0.89	5.43	0.05	0.34	4.14	0.70	1.16	1.06	23.40	2,115
35 – 44	10.23	0.74	1.48	8.15	0.27	0.59	5.14	0.63	1.82	1.66	30.71	1,104
45 – 54	11.28	1.47	3.80	9.91	0.	0.78	6.51	0.87	2.91	2.18	39.71	945
55 – 64	14.33	3.03	5.18	13.87	0.	0.92	7.27	1.12	2.78	2.58	51.08	931
65 – 74	19.61	4.64	10.26	23.69	0.	1.67	8.38	1.27	4.07	2.93	76.52	892
75 – 84	17.80	9.91	14.79	18.33	0.	1.40	7.34	1.44	4.66	3.79	79.46	326

TABLE III–2

AVERAGE COST, PER HOUSEHOLD, OF SPECIFIED CLASSES OF MEDICAL EXPENSE, SINGLE FEMALE PERSONS, BY AGE, 1961

0 – 14	10.34	3.08	0.67	12.21	0.08	0.33	1.52	1.31	1.01	0.71	31.26	107
15 – 19	12.75	0.89	0.38	7.97	0.01	0.53	4.15	1.55	1.99	0.87	31.09	357
20 – 24	12.14	0.96	0.81	7.14	0.	0.47	4.02	1.56	1.73	1.11	29.94	2,855
25 – 34	13.91	0.90	1.10	7.06	0.	0.63	5.17	1.41	2.06	1.58	33.82	2,054
35 – 44	14.95	1.49	1.85	11.87	0.01	0.64	5.63	1.55	2.15	2.03	42.17	2,133
45 – 54	16.81	1.76	2.76	14.85	0.	0.88	7.76	2.19	3.01	2.58	52.60	3,375
55 – 64	18.84	2.62	4.90	14.08	0.	1.19	8.42	1.90	3.64	2.95	58.54	3,484
65 – 74	19.40	4.28	6.55	15.28	0.	1.10	7.49	2.22	4.25	3.28	63.85	2,388
75 – 84	15.08	8.96	7.48	11.57	0.	0.93	6.36	2.15	3.26	2.33	58.12	587

TABLE III–3

AVERAGE COST, PER HOUSEHOLD, OF SPECIFIED CLASSES OF MEDICAL EXPENSE, COUPLES WITH NO CHILDREN, BY AGE OF HOUSEHOLD HEAD, 1961

Age	Office Calls	House Calls	Hospital Calls	Surgery	Maternity and Well-Baby Care	Consult-ations	Radiol-ogy	Refrac tions	Labor-atory Services	Other Services	Total	Number of House-holds
20 – 24	15.71	1.74	0.80	11.77	2.02	0.66	7.30	1.31	2.17	1.70	45.18	1,103
25 – 34	20.25	2.15	1.24	13.51	2.21	0.90	9.73	1.76	3.53	2.69	57.97	2,573
35 – 44	24.78	2.75	2.47	20.23	1.15	1.26	13.56	1.89	4.56	3.65	76.30	1,431
45 – 54	28.52	3.58	4.73	25.25	0.10	1.66	15.61	3.28	6.24	4.96	93.93	3,303
55 – 64	30.55	4.37	6.05	26.38	0.	1.73	16.04	3.03	7.12	5.61	100.88	5,020
65 – 74	33.32	5.86	8.63	29.04	0.	2.24	15.55	3.18	8.26	6.26	112.34	3,653
75 – 84	33.62	15.64	12.40	32.52	0.	2.52	13.48	3.87	7.84	5.66	127.55	602

TABLE III–4

AVERAGE COST, PER HOUSEHOLD, OF SPECIFIED CLASSES OF MEDICAL EXPENSE, COUPLES WITH ONE CHILD, BY AGE OF HOUSEHOLD HEAD, 1961

20 – 24	26.82	6.81	3.90	19.84	37.66	1.67	8.23	1.20	3.34	5.40	114.87	761
25 – 34	28.45	7.51	3.73	19.91	29.71	1.86	10.35	1.50	3.89	5.07	111.98	3,201
35 – 44	30.43	6.11	3.12	23.16	6.28	1.78	15.27	3.06	5.31	5.20	99.72	2,357
45 – 54	34.56	5.21	4.35	28.36	0.32	1.95	17.42	5.45	6.88	6.03	110.53	3,537
55 – 64	35.81	5.09	5.24	34.08	0.20	2.00	18.00	4.81	7.19	6.68	119.10	1,378
65 – 74	37.60	7.71	7.74	27.66	0.	2.27	16.72	4.48	8.45	5.65	118.28	172

TABLE III–5

AVERAGE COST, PER HOUSEHOLD, OF SPECIFIED CLASSES OF MEDICAL EXPENSE, COUPLES WITH TWO CHILDREN, BY AGE OF HOUSEHOLD HEAD, 1961

20 – 24	32.33	11.36	6.53	24.88	58.11	2.26	9.91	1.34	3.21	6.13	156.06	367
25 – 34	34.77	11.39	4.29	26.42	27.47	1.96	11.60	2.20	4.13	5.59	129.82	4,214
35 – 44	35.87	9.14	3.53	28.29	6.31	1.97	15.61	4.41	5.63	5.97	116.73	4,928
45 – 54	37.43	7.37	3.93	33.91	1.14	2.05	17.18	7.01	6.72	6.09	122.83	3,134
55 – 64	38.36	7.15	6.22	33.75	0.70	2.49	18.03	6.28	7.74	6.09	126.81	541

TABLE III–6

AVERAGE COST, PER HOUSEHOLD, OF SPECIFIED CLASSES OF MEDICAL EXPENSE, COUPLES WITH THREE CHILDREN, BY AGE OF HOUSEHOLD HEAD, 1961

Age	Office Calls	House Calls	Hospital Calls	Surgery	Maternity and Well-Baby Care	Consult-ations	Radiol-ogy	Refrac-tions	Labor-atory Services	Other Services	Total	Number of House-holds
25 – 34	37.08	14.02	5.65	32.19	32.14	2.38	12.56	2.62	4.59	6.57	149.80	2,476
35 – 44	38.92	10.96	4.03	35.66	10.25	2.21	15.90	5.02	5.48	6.31	134.74	3,792
45 – 54	41.15	9.02	4.82	38.71	2.91	2.28	18.44	7.32	6.77	6.39	137.81	1,516
55 – 64	40.08	11.73	6.36	51.93	0.09	2.93	16.82	6.85	6.56	5.93	149.28	203

TABLE III–7

AVERAGE COST, PER HOUSEHOLD, OF SPECIFIED CLASSES OF MEDICAL EXPENSE, COUPLES WITH FOUR CHILDREN, BY AGE OF HOUSEHOLD HEAD, 1961

25 – 34	40.73	16.26	7.57	41.11	35.79	2.62	13.28	3.12	4.97	7.38	172.83	957
35 – 44	40.15	11.90	5.34	40.02	15.11	2.48	15.12	5.44	5.26	6.31	147.13	1,923
45 – 54	39.56	10.00	5.50	40.59	5.51	2.75	17.15	7.02	5.91	6.13	140.12	677

TABLE III–8

AVERAGE COST, PER HOUSEHOLD, OF SPECIFIED CLASSES OF MEDICAL EXPENSE, COUPLES WITH FIVE CHILDREN, BY AGE OF HOUSEHOLD HEAD, 1961

25 – 34	45.52	16.34	8.93	39.83	39.06	3.34	15.14	4.38	5.10	8.21	185.85	299
35 – 44	42.56	12.84	5.87	43.43	21.19	2.73	15.31	5.37	4.74	6.42	160.46	767
45 – 54	43.29	8.36	5.90	50.46	10.06	2.64	19.77	8.23	6.71	8.22	163.64	265

Source: Manitoba Medical Services, 1961.

APPENDIX IV

TERMS AND CONDITIONS OF SUBSCRIBER'S CONTRACT, MANITOBA MEDICAL SERVICE, 1961

The following reproduces those exerpts from the terms and conditions of Manitoba Medical Service Subscriber Contract relevant to the analyses of Chapters 5 and 6.[1]

b *Conditions of Service*

ba The subscriber and his dependents are entitled to receive care and treatment of the character and to the extent herein stipulated, and subject to these terms and conditions. The Association may in its discretion at any time and from time to time amend, alter or vary these terms and conditions or any of them and reduce or increase any of the benefits payable hereunder, and determine in what cases and subject to what conditions, if any, any dependent not otherwise entitled to benefits hereunder may receive the same all without notice to the subscriber or dependent, and these terms and conditions as applicable to such subscriber shall thereupon be deemed to be amended accordingly, provided that the subscriber shall at all times upon request during reasonable business hours be entitled to have exhibited to him a copy of the terms and conditions as from time to time in effect. Payment of the succeeding subscription shall be taken as proof of acceptance by the subscriber of such changes.

bb Except as provided in Section bk below, the subscriber and dependent are entitled to receive services, as herein described, from medical members of the Association only.

bc The Association shall pay medical members at the rates from time to time in force, provided that the medical member shall receive such payment as

[1] *Manitoba Medical Service*, brief submitted to the Royal Commission on Health Services, December 1961, pp. B–2 to B–9. The list shown here is incomplete.

payment in full for the care and treatment rendered by him to the subscriber and dependents whose combined total annual income does not exceed $10,000. Where a subscriber and dependents have a combined total annual income exceeding $10,000 the medical member may require the subscriber to pay him an additional fee.

bd The subscriber has free choice of any medical member providing services under the terms of this contract who will agree to accept him, but the Association does not agree to provide any specific medical member. The Association takes no part in such selection and does not interfere in the customary relationships between patient and physician.

be The subscriber or his dependent may not change his attending medical member without permission in writing from the Association.

bf The Association makes no representation or warranty as to the skill or knowledge of any medical member.

bg The Association shall not be liable to the subscriber or his dependents for any act or omission of any medical member in the course of rendering any of the services herein provided to such subscriber or his dependents, and the subscriber agrees to indemnify the Association and save it harmless against the claims of any dependent in respect to any such act or omission. Nothing herein contained however shall in any way operate to affect, reduce or discharge any legal right which may accrue to the subscriber or a dependent by reason of anything done or neglected to be done by any medical member, in rendering care or treatment under the provisions hereof.

bh All agreements between the Association and its medical members for providing care and treatment to subscribers shall be taken as having been made by the Association as agent for its subscribers as well as on behalf of the Association itself. All payments made by the Association for services rendered shall be made as agent for its subscribers.

bi The subscriber hereby gives the Association the right to obtain such information and records or copies of records as the Association may require from any medical member, any hospital or any other person having rendered service to any subscriber or his dependents, or in possession of any information or records relating thereto.

bj No person other than a subscriber or his dependents as recorded at the office of the Association, is entitled to any benefits or rights under a subscriber's contract. Neither the said contract nor any of the benefits is assignable.

bk While a subscriber or dependent is temporarily absent from Manitoba, and requires emergency care during his absence, he is entitled to receive the services as herein provided. The Association shall pay any qualified medical practitioner, who is not a medical member of the Association, and who renders the services, the same amount as would be payable to a general practitioner medical member of the Association or the actual charges, if less. The subscriber will assume all liability for charges over and above the amount assumed by the Association.

bl Each subscriber shall be given an identification certificate. This certificate must be presented when service is requested for a subscriber or his dependents. A medical member shall be entitled to receive from the subscriber any penalty imposed upon the medical member by the Association by reason of the subscriber's failure to present the certificate.

bm In the event of any dispute as to the application or interpretation of the subscriber's contract, such dispute shall be submitted to and determined by the Executive Committee of the Association, and its decision shall be final and binding upon all parties to the said contract.

bn Where the Association makes payment inadvertently or otherwise in respect of an excluded service or any other service for which the Association is not liable hereunder, the subscriber agrees to indemnify the Association in respect of the said payment.

d *Benefits*

Subject to the terms and conditions, limitations, exclusions, exceptions and reductions set forth in this contract and any amendments hereto, the subscriber and his dependents are entitled to the services of Plan H or Plan HC or Plan HCX, described below, whichever plan of benefits they have been accepted for by the Association and for which the subscriber has prepaid the appropriate subscription.

da PLAN H This Plan includes provision for services of a legally qualified medical practitioner while a subscriber or dependent is a registered and admitted bed patient (in-patient) in a public general or extended treatment hospital. The range of services provided includes:

1. medical services – no limit on days
2. surgical services, including services of assistant surgeon when necessary
3. services for treatment of fractures and dislocations, burns and lacerations
4. maternity services
5. services of anaesthetist, when surgery or maternity is covered
6. services of consultant, when necessary

db PLAN HC This plan includes in addition to the services of Plan H, the full range of services included under Plan H when provided out of hospital, i.e., at the patient's home or at the physician's office.

This Plan also provides for a complete physical examination annually provided that the subscriber or dependent has not received such examination within 365 days.

This Plan does not include the additional services described under Plan HCX.

dc PLAN HCX This Plan includes in addition to the services of Plan HC, the following services when rendered in a physician's office:

1. X-ray services
2. medical treatment including immunizations, injections, allergy care
3. medical examinations and tests – including basal metabolism tests, heart tracings, brain tracings, ear tests, eye tests, etc.
4. laboratory services – including blood tests, gastric analysis, etc.

This Plan also provides for diagnostic services if such services are rendered on an out-patient basis in a public general hospital when other facilities are not available and when such services are not provided by the Manitoba Hospital Services Plan, or, in urban areas, when rendered in an emergency on an out-patient basis in a public general hospital when other facilities are not available and when such services are not provided by the Manitoba Hospital Services Plan.

e *Limitations of Available Services*

Notwithstanding anything contained hereinbefore, the provision of services under Section d shall be subject to waiting periods and exclusions as described hereunder in Sections f and g respectively.

f *Delayed Services*

fa Maternity

The Association shall not be liable hereunder for services in connection with pregnancy or conditions attributable or integral to pregnancy until both husband and wife shall have been enrolled on the same contract for at least 270 consecutive days immediately prior to the service. Dependents other than the wife are not eligible for these services.

g *Excluded Services*

The benefits will in no event include any of the following medical care or services:

ga Services for any illness, injury or conditions arising out of, or in the course of, employment, or which are covered by any workmen's compensation act, occupational disease law or similar legislation.

gb Services arising out of any illness or injury for which a third party may be wholly or partially legally liable, provided that where the subscriber satisfies the Association that such third party is not so liable or that the subscriber has taken all reasonable steps to recover against such third party or any fund or agency against which recovery may be made, without complete recovery, such services shall be covered to the extent that recovery is not complete.

gc Services for sterilization purposes or for conditions not detrimental to health.

gd Services connected with dental care, nursing services, ambulance services.

ge Medicines, drugs, materials, appliances or supplies.

gf Physiotherapy services in or out of hospital.

gg Services which are rendered in hospital by a person under contract or agreement with the hospital.

gh Services or examinations for reasons of employment, insurance, travel, marriage.

gi Mileage, travelling time, detention time.

gj Services available to the subscriber or his dependents by virtue of any statute of the Province of Manitoba or Government of Canada or which may be obtained by him or them from any municipal authority in the Province of Manitoba.

k *Enrollment of Dependents-Effective Date*

ka If a new-born child of the subscriber and his spouse is enrolled as a dependent by notice in writing to the Association within 30 days of its birth, then such child shall be entitled to the benefits of this contract from its birth.

kb If a newly acquired spouse who is eligible for services is enrolled as a dependent by application in the approved form to the Association within 30 days of the marriage, then such spouse shall be added to the contract from the date of marriage.

kc If a dependent is not enrolled within 30 days but is enrolled within 365 days of becoming a dependent, such dependent will be added to the contract as of the first of the month following receipt of registration in the office of the Association. A dependent who is not enrolled within 365 days of becoming a dependent may be enrolled only on the group re-opening date if the subscriber is a group subscriber, or on the anniversary date of his contract if the subscriber is a non-group subscriber.

kd On the addition of a dependent as herein described the subscriber shall pay any additional subscription rate that may be applicable.